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Agriculture may be regarded the great wheel that moves all the machinery of society; every other department of industry is dependent upon it, first, manufactures, and then commerce, and any means that may be employed to encourage or promote agriculture, or in any way to give it a new impulse or energy, communicates a corresponding impetus to the thousand minor wheels of interest which it propels and regulates. A kind Providence seems to have wisely ordained that because this is the most necessary employment towards the subsistence and comfort of the human family, its labors shall receive the most substantial and sure reward. While the manufacturer, and those engaged in all other pursuits, are directly dependent upon agriculture for a regular and sufficient supply of the means of subsistence, the agriculturist is enabled to supply all the absolute wants of life from his own labor; though he derives pleasure and profit from an interchange of the products of his labor with the manufacturer and other interests of society. Agriculture has been called the parent of arts, not only because it was the art designated by an allwise Creator for the employment of man, and was the first art

But to maintain agriculture in its most healthy and prosperous condition, manufactures should unite hand in hand with it. To export all the surplus products of a country chiefly employed in agriculture, will, in time, most certainly reduce the richest soil to a state of sterility. History affords us abundant evidence on this point. Great Britain, the most wealthy and powerful nation in the world, owes her greatness to the excellent state of her agriculture, united with her manufactures and commerce. It is through the union of these great industrial pursuits that she has gained and still maintains her immense possessions in every quarter of the globe. Only about one-third of

the population of Great Britain are employed in agriculture; yet such is the high and constantly improving condition of her agriculture that the labors of this one-third suffice to feed themselves and the other two-thirds. The rapid advances made in the agriculture of Great Britain within the last eighty years, have been followed by equal improvement and extension of her manufactures, and with these advances no other old settled country furnishes any parallel. That they have been very rapid indeed, the following figures and comparisons abundantly show: In 1760, the total growth of all kinds of grain in England and Wales, was about 120,000,000 of bushels. To this should be added, perhaps, 50,000,000 for Scotland, making a total of 170,000,000. In 1835 the quantity amounted to 340,000,000 bushels. The whole area of land under cultivation in the British Islands is 47,000,000 of acres, which in 1848 yielded produce of all kinds to the value of \$96,248,000,000, while the value of her manufactures reached the sum of \$84,360,000,000.

The total number of bushels of grain of all kinds grown in the United States in 1850, amounted to 896,085,147 bushels. The value of the entire agricultural products of all kinds, in the same year, was estimated at \$1,417,992,364. The manufactures for the same year are estimated at \$1,013,336,463, showing a large disproportion between the amount of our manufactured and agricultural products, compared with those of Great Britain.

The State of Missouri is but about one-third less than the entire area of the British Islands now under cultivation, and the States of Indiana and Kentucky contain but about two and a half millions of acres of land less than the cultivated portions of those Islands, while the entire area of the United States and Territories is nearly ten times as large as that of Great Britain and France combined.

At the period of the war with Great Britain in 1812, but little or no manufactures were carried on in the United States, the country being almost entirely dependent on other nations for the fabrics we consumed; even the blankets for the American soldiers, at that time, were the product of foreign looms. The results of that war did much towards establishing in the United States a more independent system. Manufactures soon sprung up, and they have gradually increased, until in the year 1850, as we have stated, the gross annual value amounted to \$1,013,336,462; yet these manufactures are chiefly confined to the Eastern or New England

States. Notwithstanding the large amount of the manufactures of the United States, we are still vastly more dependent on other countries for goods, than any other great nation in the world. To show the immense field we have for extending *home industry* and to raise a *home market for agricultural products*, we present the following facts:

A report made to the British Parliament, not long since, shows the comparative amounts of British manufactures consumed by the several nations named, viz:

Prussia, average value to each person,	7cts.
Russia, " " " "	15 "
Denmark, " " " "	17 "
France, " " " "	20 "
United States, " " " "	\$4.02 "

Thus we see that the United States consumes nearly seven times as much as the four other nations combined.

If we had a similar table of the consumption of French goods by the United States, the comparison would probably show an equally large proportion against us.

Besides the manufacture of heavy articles of cotton, wool, iron, &c., in the New England States, it is interesting to look over the list of minor articles that are manufactured, a single one of which is worth but a few cents, yet in the aggregate amount to millions of dollars annually, giving employment and subsistence to thousands of willing laborers, and yet there are thousands more, who at this time, have neither employment nor the necessities of life, while the great West can supply the raw material for almost every species of manufactures, with a ready market at our doors for all that can be made, and at the same time our store houses are filled with provisions for which the unemployed, hungry thousands would gladly exchange their labor.

In order that a country may enjoy the greatest degree of prosperity and independence, it is important to consume as much of the surplus products of the soil upon which it is grown as possible. The establishment of manufactures, then, among us, will not only secure this, but convert into useful fabrics the cotton, the wool, the hemp, the flax, the iron, &c., and these in turn will supply the great agricultural mass of population with articles of necessity and convenience at a much cheaper rate than they are now supplied.

Take, for instance, the article of cotton.—The United States produces annually upwards of 3,000,000 bales; about 650,000 bales are manufactured in the United States, while Great

Britain alone buys of us and manufactures more than 1,000,000 bales, a large portion of which is returned to us in the various forms of manufactured goods, for which we pay the cost of transportation twice across the Atlantic, besides the cost of manufacturing, commission, insurance, profits and many other minor incidental expenses. With the exception of the cheaper labor of the thousands of her hungry population, England possesses no advantage over us in the manufacture of cotton; indeed, but for this she could not compete with us, and in many sections of the United States, there are other advantages that might be taken into account, which would much more than overbalance this.

In the article of iron, with that protection which the government of the United States ought to extend to the American manufacturer, the hundreds of millions of dollars which we have paid and are paying to Great Britain, involving us in an immense debt and consequent embarrassment, might be saved to our own country, affording a superior article to that imported, particularly for railroad purposes, for which the largest proportion is consumed. Every section of our country affords an abundance of iron ore, easily accessible, and with an unlimited supply of coal in the immediate vicinity of the ore. With the raw material at our doors, with labor abundant, and provisions in the greatest profusion, why should we depend on foreign nations for that which we can better make at home?

No portion of the world has ever increased in population and wealth faster than the great West, and what is now most needed to add still more to its wealth and prosperity, is the establishment of all the important manufactures in the midst of the fields and great store houses of the nation.

The South and West furnish a large proportion of the raw material for the manufacturers of the East, while at the same time the wheat, the corn, the beef and the pork—the products of our own fields, are transported a thousand miles to sustain the laborers employed in those factories, at a cost of ten or twenty per cent or even more, on their value, for transportation, while the goods manufactured are returned to us with the additional charge of all the incidental expenses, not only for the carriage of the raw material, but of the return of the goods to us. The cost of transportation of the raw material from our own borders to the Eastern manufacturers, together with the carriage of the provisions we furnish to sustain their laborers, and the cost of the return of the goods

to us, would afford a handsome profit to the Western manufacturer.

Take, for instance, the freight and incidental charges on cotton from Louisville, Ky., to Lowell, Mass., and it will amount to one cent per yard on the cloth manufactured from it—equal to 13 per cent on the entire value. Add to this the difference in the cost of living in Massachusetts, and the West, and the difference in favor of manufacturing at home will be fully equal to 15 per cent.

An ordinary cotton mill runs about 10,000 spindles, turning out annually about 3,000,000 yards of cloth, which at the average value of seven cents per yard, is worth \$210,000; fifteen per cent on this amount will be upwards of \$30,000 annually in favor of the Western manufacturer.

When flour is selling at \$4.50 per barrel in Louisville, it is worth \$8.00 in Lowell.

In the little city of Lowell there are thirty-five cotton mills, which consume 37,431,724 pounds of cotton annually, and manufacture 98,647,359 yards of cloth, worth \$7,494,229, besides yarn, batting, wadding, &c., to the value of \$119,600. There are also two calico manufactories, which turn out goods to the value of \$1,890,000 per annum; five woollen mills, which consume 1,914,935 pounds of wool in the manufacture of broadcloth, cassimere, satinett, shawls, flannel, blankets, &c., to the value of \$1,834,438; besides these there are two mills for the manufacture of carpeting, which consume 1,994,000 pounds of wool, making 1,223,654 yards, worth \$900,000. There are also numerous other manufacturing establishments, directly and indirectly connected with these, which altogether give employment to 14,514 male and female persons.

There are few natural advantages enjoyed by the eastern manufacturers that may not be more than equalled in the West. We have every species of raw material furnished by nature at our doors—cotton, wool, iron, coal, &c., with provisions abundant and at the lowest cost, while from the salubrity of our climate no country is more healthy.

In regard to motive power, we have advantages over almost every other section of the country. In every Western State there is an abundant supply of coal, easy of access, and generally at convenient locations for immediate use. It has been a question that has led to no little discussion, whether steam power is not cheaper than water power. We contend that the question of economy on this point depends entirely upon circumstances. There are many powerful

streams of water that are employed for manufacturing purposes that are inconvenient of access, requiring large expenditures to render them available, while their locations are in no way favorable for commercial and domestic convenience and economy. Compared with many of these, steam may be regarded as the most economical power, for where coal is abundant manufacturing establishments may be located so as to secure many natural advantages that are not available where water power is frequently employed. But in the great West there are some locations where an unlimited water-power is at command, combining advantages for extensive manufacturing purposes, that in point of economy can never be approached by steam power, however convenient of access coal may be.

We doubt whether there is another point in the United States, or even in the world, combining so many advantages for extensive manufacturing, as are now accessible to Louisville. In this declaration we embrace the falls of the Ohio river on both sides. With proper improvements in the Portland canal, an unlimited power may be at command. On the opposite side of the river the power and capacity of the falls are established beyond a contingency. The experiments of Messrs. Smith & Smyser, at what is termed New Lowell, if possible, has proved more than successful.

They have erected a mill capable of turning out 300 barrels of flour daily, and yet employing but an inconsiderable portion of the power at their command. At this point of the falls of the Ohio, there are other sites for at least twenty more mills, with ample power to run 10,000 spindles each, making in the aggregate 200,000 spindles, equal to the entire power of the Merrimac at Lowell, while with the improvements suggested, an equal power could be commanded on this side of the river.

We have never seen a location more favorable for the erection of extensive mills than that at New Lowell. The foundation is one solid rock, at just the desired elevation for the convenience of any branch of manufacturing, and the cost of controlling the water for the use of the number of mills we have mentioned, would be comparatively small. This being the centre of a country of almost unlimited extent and fertility, and which is open to us by a river navigation of near 20,000 miles, and by railroads diverging to every point of the compass, nothing is wanting but capital and enterprise to set the wheels in motion and render this one of the

most extensive and profitable manufacturing centres in the Union.

Considering the ease with which this immense water power may be rendered available, we believe that it would be found more economical than steam, even if the coal and the engines were furnished without cost. Besides the economy in power, the saving, as we have before intimated, in the cost of transportation of the raw material, the delay, insurance, commissions &c., and the expense of returning the manufactured goods to us, including the difference in the cost of sustaining laborers upon the soil that produces the provisions, would afford a handsome profit to the manufacturer.

With these advantages, and many more might be named that have not been alluded to, Louisville possesses the elements of becoming one of the largest and most successful manufacturing cities in the Union.

Besides the falls of the Ohio, those in the Upper Mississippi are susceptible of being made equally available, when the population of the great west demands it, which, at the rate it is now filling up can be at no distant day.

We cannot conceive why these natural advantages have been so long overlooked, while steam mills have been erected in sections of the country under such disadvantages that they never have and never can compete with those more favorably located.

We hope, at no distant day, to see this immense power now running to waste, made to yield to the will of well directed enterprise, and give employment to thousands of persons at home, and furnish the numerous fabrics necessary to meet the demands of the industrious millions who shall be engaged in tilling the soil between the Alleghanies and the Rocky Mountains.

Honest Labor.

EDS. VALLEY FARMER:—The noblest thing in the world is honest labor. It is the preservative principle of the universe. Wise labor brings order out of chaos; it turns deadly bogs and swamps into grain bearing fields; it raises cities; it adorns the earth with architectural monuments, and beautifies them with div. nest works of art; it whitens the seas with the wings of commerce; it brings remote lands into mutual and profitable neighborhood; it binds continents together with the fast-holding bands of railroads and telegraphs; it extinguishes barbarism and plants civilization upon its ruins; it produces mighty works of genius in prose and verse, which gladden the hearts of men forever. Work therefore, with pride and gladness.

D. S. G.

Clay County, Mo.

THE GREAT FIELD TRIAL OF REAPERS AND MOWERS.

There is hardly any subject before the American farmers of more importance than a correct knowledge of the comparative merits of the various harvest machines now offered to the public.

The trial of these machines last summer at Syracuse, by the United States Agricultural Society, was more thorough and complete than any ever before held. There was a large committee of judges, and these were divided into nine sub-committees, each appointed to a separate department of observation. These observations were reported and chiefly embodied in the elaborate tables prepared by the Chairman, John Staunton Gould. Each individual point of every machine and their operations were noted by the several committees and indicated in the report by members, and the merits of each machine are summed up and also indicated in round numbers in a separate column. So that at a glance at the several tables the comparative merits of each point of every machine may be seen.

As there were a large number of machines on trial, many of which are unknown to our readers, we shall therefore chiefly confine our remarks to those that are offered for the use of the farmers in our section of the West, and endeavor to give a brief analysis of the most important points of these several machines, so that our readers may have the benefit of this laborious and important trial. But first a few remarks of a general character, illustrating the wide difference that this trial has proved in the running of the various machines.

In the working of a reaping or mowing machine, most farmers seem to be satisfied if they execute the work tolerably well, without knowing or taking into the account the power expended, or wasted in their performance. But this is one of the great items for serious consideration. For instance, in the report, table D, on draft, the average of all the machines for total power is given. The minimum is set down to Burrall's at 352 pounds, (omitting fractions), while Caryl's reaches a maximum of 493 pounds, showing a difference of 141 pounds. Now it should be considered that the power of the team to overcome this unnecessary resistance of 141 pounds, is perpetual through every second of time the machine is run. To illustrate, then, the waste of power, this 141 pounds must be multiplied into the number of seconds in a working day, say 10 hours, viz: 10 h. X 60

m. X 60 sec. 141 lbs = 5,076,000 lbs, showing an immense tax upon horse flesh, and consequent loss to the farmer. Besides the entire power expended in running the machines at full work in the field, the committee determined by experiment on the amount of power actually expended in the cutting only, that is independent of the weight and friction of the machines, the maximum of this power is set down in tables F. and G., to F. J. Frelinghausen's machine, at 181 pounds, and the minimum to Manny's machine, manufactured and exhibited by Walter A. Wood, at 66 pounds, making a difference of 115 pounds in favor of Manny's machine—a difference of considerable more than the entire power expended on the Manny machine. As this machine is a prominent one among the farmers of the West it may not be unimportant to explain how this great advantage is gained. One of the many patents granted to J. H. Manny is upon the guard-finger. In the operation of cutting, the angle formed by the cutting blade and the guard, is such as to render the cut similar to that of a pair of shears—from *heel to point*, equalizing the resistance through the whole distance of the vibration of the cutter-bar, while most other machines have straight guard-fingers, and at each vibration of the cutters, the grass or grain that comes within the blades and guards is cut all at once by one violent concussion, this being the case with the entire number of the blades in the bar united, creates a vast resistance, and clearly accounts for the difference in the different machines as shown above. Besides this, the broad guard has a tendency to exclude stones and grubs from between them, to which the narrow ones are so liable. The committee, in remarking upon this machine, say: "It is very remarkable for the small amount of power expended in the single act of cutting. We should have suspected some error of observation, had not the same thing been manifest in *both* of his (Walter A. Wood's) machines, which were tried at separate intervals. When this peculiarity was developed by computation and tabulation, (before which it was wholly unsuspected by us,) we were unable to account for the fact from the structure of the machine, and therefore requested the inventor (by letter) to give us his history of the fact. He referred us to the following passage in his printed circular, which he deemed a sufficient solution to the mystery: 'The use of the wide guard which divides and presses the grass to the cutters, and holds it in a position to be cut easier, or with less power

than when driven to a narrow guard by the cutter itself. Experience has fully proved that the nearer we approach to a continuous cut, and have enough of space left for a clip, the less power is required to cut grass or grain."

The power expended in drawing each machine, was accurately determined by the dynamometer and the amount of side draft determined by an instrument called the Side Draft Gauge.

Table A. indicates the quality of work in mowing timothy and clover. The number 40, indicates the standard of perfect work. Manny's machine, by Walter A. Wood, for quality of cutting, is put down at 38. Remarks of the Committee—"No clogging, cut well round trees."

Ball, Aultman & Co.—E. Ball's invention, is rated at 40 by a majority of the committee, but not concurred in by the chairman, as we shall show below.

C. H. McCormick.—This machine, though it received a premium as a Reaper, arrived too late to be compared in the table with the others.

Miller, Wingate & Co., Kentucky Harvester, is set down at 30. Remarks by the Committee: "Cuts badly round trees."

Atkin's patent, R. Dutton.—Numbers 33.—Remarks:—"Clogs some"

Table D., showing total power expended on each machine, side draft, &c.

Manny's machine, Walter A. Wood.—Weight of draft as determined by dynamometer, 395 pounds; side draft 3 pounds.

Ball, Aultman & Co., 418 pounds; side draft not given.

C. H. McCormick, 439 lbs.; side draft 40 lbs.

Miller, Wingate, & Co., 428 lbs.; side draft not given.

Atkins' machine, draft not given.

In summing up the total merits according to numbers, the several machines we have under consideration, stand thus:—

Manny's mach. (W. A. W.)	is rated at	360
Ball, Aultman & Co.,	- - -	372
McCormick,	- - -	328
Miller, Wingate & Co.,	- - -	320
R. Dutton,	- - -	332

In table I., showing the quality of work of Reapers' both of the cut and the gavel, 40 being the standard of perfection. Manny's machine, (W. A. W.) quality of cut 38, of gavel 40. Remarks—"Cuts well round stumps; very good piece of work."

McCormick, Quality of cut 40; gavel 40. Remarks—"Whole performance very fine."

Atkin's Self-raker, (R. Dutton): Quality of cut, 37; gavel 37. Remarks—"Cuts well round stumps; performance good."

Miller, Wingate & Co.: Quality of cut 36; of gavel 28. Remarks—"Medium performance."

It will be remembered that the award on Mowers was not announced at the time it was made on Reapers, as the committee could not agree. The first premium was awarded to Ball, Aultman & Co., the chairman dissenting. This is a Mower only. On this machine the committee remark: "This is a very superior machine—the only draw-back to its excellence being its weight, price and complexity. The cutter adapts itself with great perfection to all inequalities of the ground, so that either end and the front or rear of the knife is adjusted to the uneven surface, by means of a double hinge joint." &c. In dissenting from the majority of the committee, the Chairman, Mr. Gould, remarks, "On a more careful review, I find the table A. gives to Walter A. Wood (Manny's machine) for his work in the clover field, to one machine 28 for cut and 31 for swath, and to the other 35 for cut, and 36 for swath—which are the *highest* marks given to any machine in that field, except Hallenbeck's, while Ball, Aultman & Co. had *nothing*. So far then, as the clover field is concerned, Walter A. Wood and Hallenbeck stand at the top of the list for 'quality of work.'

"In the timothy field, Walter A. Wood had 38 for his cut and 35 for his swath. Ball & Aultman had 40 for cut and 40 for swath. It will be seen that Wood's work falls very *slightly* behind Ball & Aultman's in that field.

"The question is, whether the trials in the clover field are to be wholly overlooked and the ability to do the best work in lodged clover is to be left out of the account as of no value?"

"Whether the superiority of Wood in the clover field is not sufficient to counterbalance the slight inferiority in the timothy field?"

"On carefully considering the matter, it seems just and right to take merit in the clover into account as well as timothy; I have accordingly made Wood equal to Ball & Aultman in the merit table II., which gives Wood the first premium."

In the opinion, then, of the Chairman of the Committee, and it looks reasonable, the Manny machine is entitled to the premium as the best Mower, as well as the first premium for the best Combined Machine, which it received.

The committee further remark upon the machines under consideration:

"C. H. McCormick.—This machine is well known in this country. It worked on the worst ground we ever saw, and did its work perfectly. This is high praise, but it must be qualified by its enormous side draft and its tendency to rack, which we think impairs its durability.

"Walter A. Wood, (Manny's Machine). This excellent machine made very superior work."

"Rufus Dutton, (Atkins' Automaton, or Self-Raker).—This well known and admirable machine of Atkins' has won for itself a high reputation, which has not been diminished on this trial. We have already borne our testimony to the accuracy and perfection of its gearing. It requires more power than any other self-raker, and it cannot be regulated, with respect to the size of the gabels by the driver."

There are other parts of this valuable report worthy of consideration, but our space now forbids further extracts. In our next number we shall give some portions of it containing valuable suggestions to judges on future trials.

STEAM PLOWING.

We have frequently intimated that if steam is ever successfully applied to breaking up the soil it would not be done with the turning plows, operating like those now in use. There are too many obstacles in the way of drawing a gang of plows with a heavy locomotive over a field—but that it must be done by some process of rotary digging, in which we can see nothing very difficult. From late accounts from England this plan promises to be brought into successful operation. We learn that Mr. Alfred Newton has constructed a machine drawn by steam, which as it progresses in the field, breaks up, turns over and disintegrates the sward, more thoroughly than can be done by the plow. A series of spades are made to enter the soil in succession, revolving in the arc of a circle, when the cut slices are suddenly thrown up against a shield plate, at once breaking them into powder. Mr. John Fowler has made an improvement in the mode of operating the ordinary steam plow, which greatly simplifies the movements, and enables it to travel through the furrow with more certainty and freedom than any others yet made.

Numerous other inventors and Mechanics of England are experimenting on steam plows, who have had quite the start of their cousins on this side of the water. If Jonathan does not steam up John Bull will be over here with his steam plow turning up our prairies.

THE POTATO—IMPROVED VARIETIES.

There is no portion of the United States where the potato is cultivated more extensively than along the borders of our western rivers. In the higher latitudes, as in the northern and eastern States, many sorts are grown, possessing superior qualities. But in the Ohio and central Mississippi valley of the Neshannock constitutes the chief variety grown. This is a potato of excellent quality, possessing peculiarities of growth which better adapt it to the climate of this section than any other that has been introduced. The most important requisite, connected with fine qualities, in a climate like ours, is early maturity, and this the Neshannock possesses. In planting potatoes, with us, the object should be to get the seed into the ground so early that the crop may make and mature before the power of our summer sun reaches its greatest height, for potatoes will never develop well under our mid-summer sun. A cool temperature, like that of the climate of England, and the northern Lake and Atlantic borders, is best adapted to the perfect development of the potato, hence any of the numerous varieties that have been produced from seed, within a few years, many of which require a long season to mature, come to great perfection there.

It is well known that the potato has been produced by cultivation, from a wild, inferior plant, of a poisonous character, and the numerous varieties which we see in the eastern markets are chiefly new seedlings and have been produced within a few years. The Rev. C. E. Goodrich, of Utica, N. Y., has probably done more in the way of raising new kinds of potatoes than any other man, and indeed we may say, than all others in this country. He has made this department of agriculture his particular study. He is doing for the potato what Van Mons, of Belgium, did for the pear. He has produced seedlings from all varieties within his reach. From 1849 to 1854 he originated about 5,400 varieties, and in 1855 and 1856, he added to the number about 3,000 more. It is well known to those who have experimented in producing new varieties of fruit of any kind, that a very small proportion of new seedlings can be calculated on as an improvement upon their parents; the tendency is rather to run back into inferior sorts, but while out of one thousand new seedling apples, pears or other fruits, perchance nine hundred and ninety will be inferior, yet the remainder may be improved in various particulars. Mr. Goodrich finds the po-

tato to more frequently produce itself more nearly, and in other instances a larger proportion prove superior, than the seedlings of almost any variety of fruit or vegetable. Yet this is not always so, for sometimes out of several hundred varieties, hardly a single valuable sort will be found.

We are led to these remarks, in the hope that some one, curious in such matters, who would be glad to do mankind and himself an important service, will undertake to produce a variety of potato that shall possess superior qualities, particularly of productiveness, suited to the peculiar climate of the Ohio valley, that shall supercede the Neshannock. This should be done on our own soil, and with the varieties we have. If a new potato, possessing all the good qualities of the Neshannock, and that would yield 25 per cent more with the same culture bestowed on this kind, it would add millions of dollars to the aggregate yield of the country, and immortalize the name of the individual as one of the greatest benefactors to mankind.—The Neshannock now seems to be on the decline in many places, and must soon be superceded by some other kind. When we consider that most of our fruits and vegetables are the result of skillful propagation, from wild, worthless varieties, and that this improvement is still progressing, with every effort, there is abundant encouragement to induce an attempt to improve the potato for our own peculiar location.

Among the important traits included in a valuable variety of potatoes, and which Mr. Goodrich has aimed to secure, are especially the following: 1st. *Good shape.* 2d. *White flesh.* 3d. *Hardiness.* 4th. *Freedom from Growth.* 5th. *Resistance of dry Weather.* 6th. *Fine flavor.* 7th. *Early Maturity.*

These are all important requisites and to which we will add *Greater Productiveness.*—From what has been done in this way, we have no reason to conclude that the point of perfection has yet been reached. Indeed we think that with the new lights of science that are now being shed around us that improvement in many of our fruits and vegetables has but just begun.

The method of raising seedling potatoes is simple. The seed balls are gathered and the seed washed out and the following spring they are planted in a well prepared, rich, mellow bed, one foot by two apart, finally leaving but one plant in a hill. It will require at least three years to ascertain the true character of the product.

Out of the large number produced by Mr.

Goodrich, he has reduced them to forty or fifty of the best, and after future planting he will undoubtedly discard many more. If but two varieties are finally secured, possessing qualities superior to any others now known they will repay the labor of a life-time.

We have seen a list of choice varieties of potatoes, recommended to the farmers and market gardeners for the New York market, in which the "Prince Albert," a new variety recently imported from England, seems to combine all the qualities of a good potato, including that indispensable one of early maturity, together with great productiveness, and would seem to be well suited to the peculiarities of our climate. There are but few of them yet in market, but when they can be obtained, we think them worthy of trial.

INDIAN CORN.

The season for preparing for planting this great Western staple has arrived, and as there is yet to be a great improvement in the cultivation and management of this crop, we propose to offer a few remarks on the subject. This grain is destined to become the chief article for the bread of the nation, and its consumption will be greatly increased in other countries.—The yield of wheat in all but two or three of the new wheat growing States is gradually diminishing, notwithstanding the constantly increasing breadth of land sown—that is, the yield per acre, in all the older States, is gradually diminishing. Unlike corn, wheat requires a peculiar soil, well stored with all the constituents of that crop, so nicely balanced that the exhaustion of a small portion of any one of them by a few succeeding crops reduces the yield per acre at a rapid rate, unless the fertility of the soil—those properties that have been extracted, are restored in the form of manure. As this is by no means done, and with the rapid increase of population, the period is not far distant when all the wheat sown in the country will be sufficient to supply but a small portion of the bread of the population. To make up this deficiency Indian corn must be depended on. It is important therefore that farmers begin to improve in their method of cultivation. The average yield of Indian corn, in all the corn growing States, is less than thirty bushels per acre. With but little additional labor the average yield can easily be doubled. We frequently hear of crops of corn that reach 75, 100 and even 150 bushels per acre. This is the result of thorough and

timely tillage. Even in New York and Massachusetts the dwarf corn grown in the cool and unfavorable climate of those States often exceeds 100 bushels per acre. But in these instances a considerable quantity of manure is applied and the cultivation is of the most thorough character; with the employment of these means under our favorable sun and on our generous soil much greater returns might be realized. But we are aware that the present price of corn in the West will not warrant so great an outlay for manure and labor, but there is a reasonable medium that should be observed, which would easily increase the corn crop one hundred per cent, with a considerable increase of profit to the cultivator.

The means to be employed, to secure this end, we think, are within the reach of every farmer. Corn requires a deep, mellow soil, with a constantly loose open surface, particularly in dry weather. Where there is depth of soil the plow should be made to turn a furrow from eight to twelve inches deep. To secure this it may be necessary to use a trench plow, usually called the Double Michigan plow. The cost of an extra team to run this plow, will be more than compensated by the saving of labor in the subsequent cultivation. In the first place the forward plow turns the surface of the soil with all the weeds and seeds, to the bottom of the previous furrow, and these are covered by six or eight inches of the soil below, that is comparatively free from seeds, leaving a clear surface of soil that has never before been turned up to the ameliorating influences of the sun and atmosphere. In a soil thus prepared, not only is much labor saved, by avoiding a prolific crop of weeds, but with proper after culture, the crop will make such a rapid growth that it soon shades the ground so that weeds cannot flourish. On old fields that have never been submitted to deep tillage, the use of this plow in burying the exhausted and worn out soil of the surface, and bringing up in its place an equal thickness of virgin soil, will be more than equal to a new soil, with ordinary tillage. When there is not depth of soil, sufficient to admit of the running of the trench plow to a proper depth, without turning up too large a proportion of subsoil, then the sub-soil plow should be employed to run after the turning plow, breaking up the subsoil to the depth of 12 inches or more. This is particularly important where the sub-soil is a compact one. Such preparation of the soil, not only greatly lessens the subsequent labor of cultivation, by putting the weeds below the germina-

ting point but it affords double the extent of pasturage for the roots of the growing crop, besides insures protection against the effects of drouth, as well as deeper drainage in case of excessive wet.

The California farmers, although agriculture in that State is in its earliest stages of infancy, have learned the value of deep tillage to counteract the effect of several months continued drouth. There is a reservoir of water in almost all soils that may be rendered available in times of need, if the farmer will only properly prepare the land for it before putting in his crop, and then keep the surface in the proper order. In a well pulverized soil to the depth of twelve or more inches, a perfect telegraphic communication, if we may be allowed the illustration, is constantly kept up between the roots of the growing crop, by the supply of moisture from below, through the agency of capillary attraction. This fact should never be lost sight of by the farmer in breaking up his field for this crop. With these precautions a fair crop may always be secured in seasons of extremest drouth, while on lands but half prepared, the crop will prove a total failure, as the experience of thousands can testify. Much depends, too, upon the after culture of corn. With the plow and cultivator, if employed at the proper time, all the labor of cultivating a crop of corn in our western soil, is not much. First, give the young plants a dressing with the large harrow; this to be succeeded at the proper time with the plow; the cultivator should then be allowed to complete the work, and this should be used as often as the surface becomes packed by beating rains.—Thus keeping the soil light and porous, it serves as a kind of mulching, with the *natural* material always at hand, which bids defiance to the effects of our dryest summers.

There is a much greater profit from forty acres of corn, yielding eighty bushels per acre, with this kind of cultivation, than from eighty acres, yielding but forty bushels to the acre, saving the wear and waste of half the land. With the great abundance of land, our farmers have been led into a wasteful and slovenly habit of farming, which the change of times and circumstances require should be reformed. It is *high farming*, with skill and judgment that is found to be most profitable. The old system of *skinning* will no longer pay. The slack, uneducated farmer may manage to supply his family with "meat and bread," as easily as he could forty years ago, but something more is required. To be up with the age, his children are

to be educated and the customs of society demand a thousand conveniences, necessities and comforts, that were dispensed with in the earlier times of frontier life. To provide for all of these, the order of the age—progress and improvement in farming, as in everything else, must be regarded.

Selecting Seed Corn.—The effects of the unusual weather of November last upon the corn crop has never been experienced before since corn has been cultivated, at least to the extent that the corn was then injured. Owing to the cold season it matured a month behind the usual period, leaving the grain damp, with the cob containing a great amount of moisture. In this condition the vitality of a large portion of it was entirely destroyed, so that in selecting seed, it will be a matter of great uncertainty, whether it will vegetate or not. It will be a great saving of time and labor, for those who failed to follow our advice last fall, and select their seed from the best stalks in the field, and cure it with due care, to test the vitality of their seed, some time before they intend to plant. A pint or so, taken from the general stock, should be placed in a box of earth and put in a favorable place, under a proper temperature, and the proportion of grains that grow, be carefully observed and estimated. In this way it is easy to determine whether it will answer for seed or not, or what allowance is to be made in dropping the seed, for defective grains. This precaution may save the labor of replanting in many cases. We know of many farmers who will not attempt to plant the seed of last year's growth at all, but will use seed of the previous crop. Where corn has been well housed, this may be the wisest course, but where sound corn of the growth of 1857 can be had, with a tolerable certainty of its growing, we should prefer it.

KENTUCKY BLUE GRASS.

Sanford Howard, Esq., editor of the Boston Cultivator, in an article on grasses, published in that paper, considers the spire grass, June grass of the Eastern States, as identical with the Kentucky blue grass—*Poa pratensis*. In the Country Gentleman we find a communication from Cassius M. Clay, Esq., on the subject, in which he differs from Mr. Howard. We make the following extract from the communication of Mr. Clay:

"In an article in the Ohio Cultivator, copied from the paper of Sanford Howard, on Grasses and Herbage, I find under the caption *Poa pratensis*, enumerated as one, the spear grass, June

grass and Kentucky blue grass. This is certainly an error. Last winter I looked in vain in New York and Michigan for the Kentucky blue grass. What is commonly called June grass there, is very much like it, but the June grass has *joints* in the "culm" or main seed-bearing straw. In the culm of the Kentucky blue grass there are no joints. The straw is sheathed in the blades or leaves, but when they are stripped *no joints* are found. The culm ascends in a single shaft from the crown." To which the editor of the Country Gentleman, John J. Thomas, remarks: "The specimens had become much crushed and broken by the time they reached Union Springs; but enough remained to show when examined under a microscope, along with other dried specimens, that they had all the specific character of the *Poa pratensis*: There were no indications of the peculiar "joint" in the seed bearing straw or upper portion of the culm, mentioned by our correspondent. May not the Kentucky blue grass be a distinct, permanent and more luxuriant variety of the species known as *Poa pratensis*—or is it the same variety only temporarily modified by more favorable soil and climate?"

With a view to arrive at all the facts possible in the matter, we inclosed two specimens of seed, one the true Kentucky blue grass, and the other a variety gathered in Western New York, near Lake Ontario, each to Mr. Howard and to Mr. Thomas. To which Mr. Howard replies, that "they are evidently of different species, but a glance is sufficient to perceive that the sample labelled 'Kentucky Blue Grass,' is identical with what is here called June grass, spire-grass," &c. Mr. Howard further gives it as his opinion that the other sample is the *Poa Compressa*, a very inferior variety of grass, and regarded by many farmers as a nuisance.

We make the following extract from the Country Gentleman, in reply by Mr. Thomas, to the samples sent to him. After acknowledging the receipt of good specimens of Kentucky blue grass from Mr. Clay, he says: "We have also received from H. P. Byram, editor of the *Valley Farmer*, two packages of seed, one marked "Kentucky blue grass," and the other "Blue grass from the State of New York." The first appears, as far as we can judge from the seed alone to be identical with the Kentucky blue grass as received from Cassius M. Clay, and identical with the *June grass* or *spire grass*, of New York. The other paper is evidently a different species. It much resembles the seed of the *Poa Compressa*, commonly called blue grass in New York, and

generally regarded as a weed here, and specifically distinct from the June grass, or Kentucky blue grass, which is the *Poa pratensis*."

Our worthy cotemporary misunderstood us as saying that this seed which was grown near Medina, New York, was sent to Louisville, as "extra cleaned Kentucky blue grass." This name is given to it here by a certain firm, and samples labelled as above are sent to dealers in all parts of the country, and even back to New York. Hundreds of bushels of this spurious seed have been sent off from here as the genuine article. Mr. Thomas further remarks: If the farmers of Kentucky have bought it as a pure seed of the Kentucky grass, they will, we fear, be disappointed when their crop appears, unless this species succeeds better there than in New York.

LEGISLATIVE AID TO AGRICULTURE.

Agriculture being acknowledged to be the basis of the prosperity of a country, it would naturally be supposed that the greatest efforts would be made to encourage it. But though agriculture forms the occupation of four fifths of the inhabitants of our country, almost every other interest engages the attention of our legislative bodies more than this. If money is required for the encouragement of agriculture, legislators are generally seized with a violent paroxysm of economy, and to the most urgent demands give answer in the groans of this economical colic. If they open the public purse at all for such purposes, they open it as tenderly as if it were a steel trap which might snap off their hands, though for other purposes they will hold it open fearlessly with the thumb and finger.

What is the cause of this? The cause is that farmers have paid too little attention to their own interests, and have not been sufficiently impressed with the importance of their own calling. They suffer themselves to be governed by political cliques, and elect as legislators men who think more of their own interests and of their little political squabbles than of the welfare of the country.

Old Polonius, boasting of his wisdom, says that if he is not right in regard to the madness of Hamlet, he is fit for nothing but to be a farmer—

"Let me be no assistant to a State,
But keep a farm and carters."

To paraphrase his language, he says, "If I am deceived in this matter, I will consent that I, the wise Polonius, shall be considered incom-

petent to assist in managing the government, which requires so much wisdom, and fit only to be a farmer, which requires no wisdom at all." Polonius is generally considered an old fool, but he was wise enough to be the exponent of the feelings of a certain class. He knew how farmers were regarded by the "assistants to the State," and he knew how to express the feeling. The race of Polonius is not yet extinct. There are many of the assistants to the State in our own country who look upon farming as Polonius did, even while they are lauding the "bone and sinew," of the land. Some of these men no doubt regard the tiller of the soil as very respectable "bone and sinew"—and nothing else—politicians having all the brains.

Thinking of some things in the history of our legislation has almost made us angry, which we do not intend to be. There is a bill now before the Senate of the United States to which we wish to call the attention of our readers. This bill provides that six millions three hundred and forty thousand acres of land shall be apportioned to the several States, according to their representation in Congress, for the benefit of Agriculture and the Mechanic Arts. Various provisions are made in the bill for preventing the waste of the money arising from the sale of these lands and for insuring its application to the establishment of colleges for instruction in Agriculture and the Mechanic Arts.

We do not say that all the provisions of this bill are what they should be; but we do say that the principle is one which should be adopted by the government.

The importance of agricultural schools, no man of intelligence will deny. The increasing number of these schools shows the demand for them. From the time of the establishment of the first agricultural school at Hofwyl, in 1799, to 1844, there arose but nine of these schools. In seven years after the latter date, there were three hundred and fifty-two in existence.—The influence of these schools, surrounded as they have been, by unfavorable circumstances, has been immense. Agriculture without such schools is empirical; with them, it becomes a science. One such school in a State would save immense sums that would otherwise be wasted. In such a school experiments could be made for the benefit of the whole State. It would have a tendency to make the farmer feel a pride in his vocation, and prevent young men from rushing into the "professions" because they are more respectable. The graduates of such institutions would be distributed throughout the States,

spreading valuable information and giving impetus to agricultural industry. These schools would not benefit merely the farming interest.

The prosperity of every class of society depends on the prosperity of the farmer. Every assistance given to agriculture is an assistance to every individual in the State.

Now why should Congress support Military and Naval schools at such enormous expense, and refuse to give assistance to Agricultural schools? Congress will not do so if farmers let their representatives understand what they should do. We hope the farmers will awaken to a sense of their interests and the interests of the whole community. Let us have men educated to cultivate the soil, as well as to practice law and medicine and to perform military evolutions. Various Presidents, from Washington to Jackson, have recommended to Congress the adoption of measures for the encouragement of agriculture; but the members of Congress have considered other matters more important. All they have yet done is the establishment of the Agricultural Bureau of the Patent Office, as if agriculture were a secondary matter. Farmers, let them know that there is no subject more important than this. If you speak, they will listen!

THE DYNAMOMETER.

The name dynamometer is derived from the Greek, and signifies a measure of motive power. This instrument is used to ascertain the amount of power or draft applied to implements and machines employed in agriculture, such as plows, mowing and reaping machines, horse powers and other machines, boats, &c., requiring draft animals as a motive power.

The numerous agricultural societies that have been organized, within a few years, in every State in the Union are doing much for the encouragement of agricultural progress and improvement. In determining the comparative merits of different machines of the same kinds on exhibition and trial, at the annual fairs of these societies, among the various points of comparison to be considered by the judges, there is none of greater importance than ease of draft, and this cannot be ascertained without an instrument by which the draft can be measured. For this purpose every agricultural society should have a dynamometer of the best construction. We have seen quite a variety of these instruments, and some of modern origin embracing improvements over those of earlier date. These instruments are very important in

determining the comparative draft of plows of different style and pattern. By them it has been ascertained that one kind of plow, apparently of the most perfect form, will require a power of 700 pounds to draw it through a field to a proper depth, while another plow, varying somewhat in form, and calculated the better to overcome the resistance in its various points of bearing, may be drawn at an equal depth, and turn as perfect a furrow with a power of but 400, and even less. This is a wide difference, and is a matter of great importance to the farmer, where the power applied is that exclusively of animals whose strength is to be sustained at a great cost of food; besides animals thus unduly taxed will wear out in much less time than those employed with implements of the most perfect construction. A similar difference is also found to exist in the amount of power required to run the different kinds of mowing and reaping machines, horse powers, &c.

In selecting a dynamometer it is important to procure one of the proper construction. Some are made with springs in such a manner that they elongate considerably with the degree of resistance to be overcome. In plowing, for instance, when the plow enters a soft spot of earth, or is advancing upon rising ground, the tendency is to run deeper; this, of course increases the weight of draft or resistance, causing the spring to yield still more, and thereby increasing the distance between the team and the plow, causing the plow to enter still deeper and consequently multiplying the maximum draft. And on the other hand, when from any cause the plow runs more shallow the spring is shortened, causing the plow to run more shallow, and again reducing the maximum resistance. This gives so wide a range to the index hand of the dynamometer that the true draft cannot be determined with sufficient accuracy; but in the more improved instruments of this kind this objection has been nearly overcome.

The most simple, cheap and at the same time efficient dynamometer that has come under our observation, is that known as Gibb's Elliptic Dynamometer, manufactured at Canton, Stark county, Ohio, by the inventors, G. & J. W. Gibbs. These are sold at a price that will come within the ability of every county society in the country to procure one.

Another dynamometer, somewhat more costly and bulky, though of the most ingenious and perfect, yet simple construction, has been invented by Mr. W. B. Leonard, corresponding secretary of the American Institute, New York.

We cannot enter into a description of the beautiful arrangement of this instrument, without a cut to illustrate it. In its operation it is self-registering, that is, it registers the maximum amount of draft applied, and by an index hand also registers the entire amount of motive power expended in drawing a plow, reaping machine, &c., a given time and distance, so that an average of the amount of power expended in the draft for one hour, or any other specified time is recorded to the accuracy of a pound. This machine may be modified so as to be used not only to test the power expended on farm machines, but the power exerted by steam engines, mills, gearing, also will register the speed of vessels at sea, and the power applied to canal boats, &c. It is also applied as a water and gas meter.

These instruments are manufactured at the Oakland Works, Sag Harbor, N. Y., by Mr. John Sherry.

Specimens of Leonard's Dynamometers may be seen at the Valley Farmer offices in Louisville, Ky., and St. Louis, Mo.

[For the Valley Farmer.]

TREATMENT OF BLUE GRASS.

In no department of farming are farmers generally more remiss than in bestowing a proper attention to the culture of grass, and yet upon its proper treatment the farmers of the West must mainly depend for the restoration of their thin and worn out land to its original fertility, and for keeping the soil in a continued progressive state of improvement. All stock should be kept from the grass in the spring till it has a good start, sufficient to afford a plentiful supply for the stock to be turned upon it, and to protect the ground from the scorching rays of the sun. If grass be thus treated, it will hold the droppings of the stock, and prevent, to a great extent, the waste to which they would otherwise be subjected from washing rains, and convert the deposit of the stock, reduced to a liquid state from the rains, to the benefit of the ground, by enabling it to absorb its fertilizing principles.

Never graze your land too closely. If your ground is inclined to become foul with briars and shrubs, cut them down or grub them up—assist the stock in trampling and eating them out, and do not depend upon starving your stock to make them eat briars and shrubs. The increased value of stock handled well, by being permitted to run upon good grass, will more than pay for the labor requisite to keep down the briars and shrubs. All weeds should be cut before they seed—they will soon decay, and if thick enough, afford an excellent top dressing for the grass. Blue grass sod when grazed too closely, after having been set for many years, is sometimes seriously injured by a green moss which covers the ground and renders the grass feeble and almost worthless. Such grass sod should be cut to pieces, by feeding stock upon it, when the ground is wet in the fall, winter or early in the spring. This induces that atmospheric action necessary to a healthy and vigor-

ous growth of grass. Keeping a good length of grass prevents loss to the soil from evaporation, insures a good condition to the stock handled, adds to the general fertility of the soil, and pecuniary interests of the farmer, and thus promotes his individual comfort and personal enjoyments.

W. H. CAMPBELL.

Amicitia, Ky., Feb. 27, 1858.

(For the Valley Farmer.)

CLEARING

Notwithstanding times are hard at present, good farmers will be but little affected by them; they will not be disheartened; they will proceed in their improvements with unabated zeal and industry, and this present fine, open, winter will undoubtedly induce many farmers to open more ground. Clearing timbered land is indeed a hard job and it is so much the harder if an inexperienced person undertakes it. Now this essay is not written to instruct old and practical farmers. Only young farmers or new beginners may perhaps profit by it.

Various modes are advocated and adopted to make a new field. Some cut all the underbrush down, burn it, fence it and then break up, or I should rather say, attempt to break it up. Even when the breaking is done with one of these jumping shovel plows, it is a horrid job. It is true a good many roots are torn up, but half of them are just put in a fair way for growing and sprouting finely, and if we add up all the days which are spent in sprouting for three or four years in succession, probably this new field has cost more labor than if it had been cleared with the old fashioned mattock at the first start. It is not to be denied that grubbing is a very hard and tedious labor, but if it is well done, the field is in good order at once; it can easily be broken with one team of oxen or horses, provided a good sharp colter is attached to the plow, and it is not injurious, or even very hard on either man or beast. Moreover the corn or tobacco which is generally planted on new ground, can be thoroughly cultivated the first year. With the exception of the large river bottoms, all ground, cleared by a radical grubbing, is in order to bring small grain, if not the second, at any rate the third year, and the raising of small grain is not so deleterious and injurious to the field, and in most cases more profitable to the farmer. Grubbing is often very expensive in the beginning, but it will pay well when properly managed, even the first year.

I cleared in the spring of 1857, with the assistance of a boy 13 years old, about 3 1/4 acres. We grubbed it well, burned the brush, chopped up the old logs, deadened the timber, made the rails and fenced it. All the hired help did not cost me above \$12 00. Of this new piece I planted two acres in potatoes and the balance I planted in corn. The corn and fodder which grew on this small patch was worth more than \$12, and I raised besides, upwards of 200 bushels of potatoes, of which I sold about 150 bushels, at 50 cents per bushel. I do not mention this as something extraordinary. I merely wish to prove that good clearing will more than pay for the labor spent for it even the first year. I be-

lieve that money laid out by farmers for good clearing will bring more and surer interest than if invested any other way.

If a farmer is not pushed for a new field he may shrub his brush in the dark of the moon in July or August and pile it. If all the cattle, especially sheep, which run at large in the neighborhood, have free access to such a clearing, they will eat off all the young sprouts as soon as they show themselves and in about two years all the roots and small stumps are so far rotten that such a clearing may be broken up well with two or three yoke of cattle, and indeed we have in our neighborhood such enormous and almost impenetrable thickets of the richest soil, that it would take one man a full month to grub one acre as it ought to be grubbed. Also these solid hazel thickets, matted together with grape vines might be cut with brush scythes and turned up with a good colter plow and strong oxen, but when the undergrowth consists of oak, hickory dog-

wood, redbud, sassafras, mulberry, &c, grubbing is the best method of clearing if there is only room enough between the bushes to admit of digging.

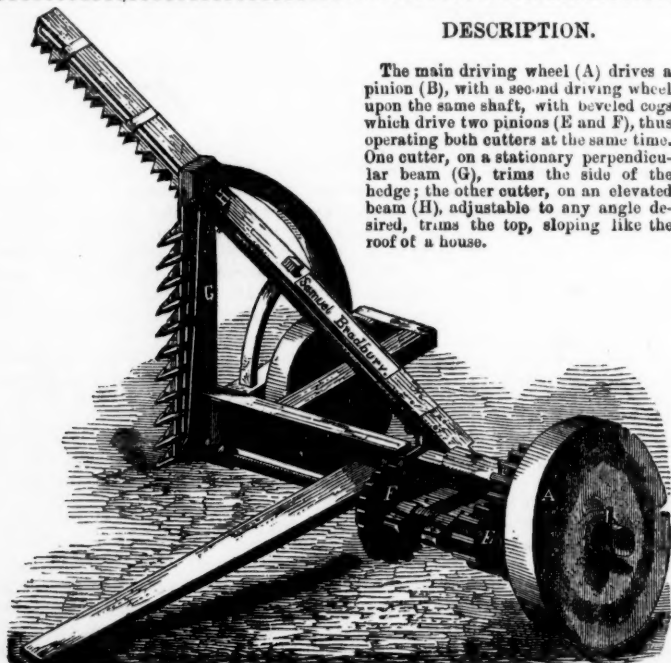
Clearing is also frequently commenced by inexperienced, new farmers, wrong end foremost. They attempt to fence the clearing in the first place; they cut the trees down right on the brush, split their rails, cut roads through the brush in order to haul the rails out, and then begin their grubbing. This is about double the work. The top of the trees are in the way of the mattock, and the tops cannot well be chopped up without cutting still more brush down and a great many stumps are very easily overlooked. Therefore grub first, then clean up your brush; then chop up your logs, deaden your timber, make your rails and all your work will go on easy, smooth and quicker than any other way.

G. G.

Campbellton, Mo.

DESCRIPTION.

The main driving wheel (A) drives a pinion (B), with a second driving wheel upon the same shaft, with beveled cogs which drive two pinions (E and F), thus operating both cutters at the same time. One cutter, on a stationary perpendicular beam (G), trims the side of the hedge; the other cutter, on an elevated beam (H), adjustable to any angle desired, trims the top, sloping like the roof of a house.



HEDGING---BRADBURY'S PATENT HEDGE TRIMMER.

The great obstacle in the way of the extensive introduction of the Osage Orange hedge in districts destitute of the common fencing material is the liability to neglect at the proper time for trimming. While the farmer is occupied with his crops he is inclined to defer this indispensable labor upon the hedge to some more leisure season until the vigor of the hedge has so far run away with it, that a remedy is expensive if not impossible. But Bradbury's hedge trimmer appears well adapted to obviate this difficulty. We have never seen the machine, but we are indebted to Messrs. Sleeper & Lindley, of St. Louis, Mo., gentlemen extensively engaged in setting hedges in Missouri and Illinois for a cut and description of the machine, which we here present to our readers. It will be seen that its

operation is similar to that of a common mow-er, only it has two sorts of cutting apparatus—both operated at the same time—one trimming the upright portion of the hedge and the other the top at an angle of about forty-five degrees, thus forming a very handsome hedge. We can see nothing in the way of the perfect operation of this machine, and its use must, we think, be the means of placing perfect hedges at the command of every farmer.

This machine was patented the 27th of January, 1857. It is placed on two wheels, and when used can be attached to the ordinary wheels of a wagon, and must run over a great length of hedge in a day. It was invented by Mr. Samuel Bradbury, Griggsville, Pike coun , Illinois.

Stock Raising Department.

[Written for the Valley Farmer.]

SCIENCE OF FEEDING.

It is no doubt familiar to you, that in the important pursuit of agriculture in raising and fattening cattle as also other animals necessarily required for living or cultivation of the soil, there is much scientific knowledge loudly called for. I am assured you will agree with me that among thousands of well meaning, industrious men, a large proportion will be found, who, when feeding cows, sheep, steers or horses or other animals, do not really know what they are doing. Since cattle raising and fattening became so important a branch of agriculture in our country, great and important discoveries and improvements have been the result of scientific research, applicable to that branch of industry, especially as regards the effects of food on the animal economy. The well attested discoveries, are now known to but few, and unfortunately to but a few of that few among the agricultural community. This is to be regretted, and for the interest of the country a remedy is loudly called for by disseminating the reliable results of scientific investigation in such a way that a general benefit might be derived.

That certain food with certain treatment of the animal, is especially calculated to produce flesh and fat, while others are equally productive of bone, sinew, &c., is now well determined by chemical analysis; and it must be acknowledged that a number of scientific works lay before the reader this valuable information, but unfortunately these works are in the hands of but few reading men, and by assuming the "book form," calculated to rouse the unfounded prejudice that fills the minds of many well meaning men, not deficient in intellect, while another class is rendered invulnerable by that trivial circumstance. It is a subject of congratulation, however, that the agricultural papers, and such periodicals as your valuable work, have made an inroad into this mass of folly, and at present almost all are willing to hear what the *Valley Farmer*, the *Agriculturist*, the *Cultivator*, &c., say. It may here be added, that observation, if called out, might throw much practical light upon this subject.

Now, it occurs to me that there is not a publication in the Union better calculated to lay this information before the reading farmers of our country than the *Valley Farmer*, and that among your numerous readers some may be calculated, by the knowledge they possess, or their access to works on these subjects, to give the actual results of accurate chemical analysis of different vegetable and animal food, exhibiting the capacity of each to form bone, muscle, flesh or fat, or in plain English, to produce a rapid growth and most ready and economical degree of flesh and fat, preparatory to being used for food.

It is well understood that oats have a peculiar quality and adaptation to promote growth, while corn, the accumulation of flesh and fat.

The growth of a pig in an oat patch is proverbial, as also in a clover field; but not only showing the growth of the animal, but carrying flesh and fat with it. Our common pine wood's range supports flesh, but the degeneracy of cattle confined to them, tells as regards its capacity to produce the essentials of growth of body; and indeed the same may be said of our staple crab or crop grass; animals that eat it with apparent pleasure grow but slowly. Green barley on the other hand, shoves on animals that graze, astonishingly; and so with every variety of vegetable food—some appear favorable to growth, others more to put on flesh and fat. Again, roots appear favorable to the production of flesh and fat.

There is, no doubt, in your State, many intelligent men who could give valuable practical information on this subject. It will appear obvious to you that it would add much to the pecuniary advantage of every stock raiser and fattener, if he knew the food best adapted to growth and fat. From the scientific information we already possess, a person throwing corn to a growing pig exhibits little more knowledge than the grunter, and as little regard to his pecuniary interest.

AN ENQUIRER.

REMARKS.—We fully agree with our correspondent in regard to the importance of the information to which he refers. In England and Germany these subjects have been fully discussed and the facts given to the public. We have intended to take up the subject at some future time, but the mass of our readers are hardly yet prepared for subjects so strictly scientific, for they would not likely be willing to give them the attention that their importance demands, or regard them so favorably as they would more plain practical matter. We have been endeavoring to open the way for the introduction of more scientific matter and shall follow it up as we think the wants and wishes of the majority of our readers demand.

Cashmere Goats.

Mr. J. P. Brown writing to the "Cincinnati Gazette," says:

"I have just received from Asia, through the kind offices of Hon. John P. Brown, United States Consul General at Constantinople, three male and nine female Angora or Cashmere goats. They are in good condition and have a beautiful white fleece. Mr. Brown writes me that, in his opinion the climate and geology of Ohio will suit the goats admirably. They can be crossed upon the common goat, and the second cross returns them to their original fineness.

I am of the opinion they will form a valuable addition to the agricultural interests of the country. The weight of the male fleece yearly is about seven pounds, and the female four to five pounds. They are very cheaply fed and kept browsing on brush-wood, young oak, dry leaves, &c.

Mares Versus Geldings.

Farmers generally do not seem to be fully aware of the benefits which they might derive from the use of mares, instead of geldings. Farmwork for horses is comparatively light. It is slow work. They are not necessarily exposed to labor which produces heaves, founder, spavin, broken wind, etc., etc. These are all caused by unnecessary exposure, indulgence in eating and drinking, under unfavorable circumstances, or over-driving; or, by two or more of these causes combined. It is true, it is necessary for horses to perform some work upon a farm, which draws severely upon their nature; but, for the most part, farm work is steady, every day work, where horses can be well fed and cared for. Consequently mares are just as good farm workers as geldings.

If such is the fact, we propose to show farmers that they should, for their own benefit, keep mares for farm work instead of geldings. With proper treatment, a good breeding mare will bring a colt every year, without interfering materially with the operations of the farm.

If the necessary pains has been taken to secure the services of the best stallion, the colt will be worth, when a year old, one hundred dollars; and, by the time, he is old enough to use, he should be worth two hundred dollars. Well, if the colt is worth one hundred dollars at a year old, and the service of the horse costs twenty dollars, it leaves eighty dollars for the use of the money invested in the mare, as her labor will certainly pay for her keeping. Now, if the mare is worth two hundred dollars, the eighty dollars would pay forty per cent. interest, annually, upon the investment, which is far better than loaning money at three per cent. a month, as there is in this case, no usury law for debtors to avail themselves of; and then there is no more risk in the mare than there would be in geldings, not so much, even. This is only the profit one year.

The same can be done for a succession of years. And you can just as well keep a span of mares on your farm, and, after two or three years, have a span of fine horses to sell every year, as to keep a lot of stock which will neither increase in number or value.

Now, if you keep geldings, they are not so hardy naturally, we think, and do not live so long, and when once done with work, are of no manner of account to any one, and mercy requires you to knock them on the head. On the contrary, when your mares are advanced somewhat in years, or if they become lame from any cause, you can still, under ordinary circumstances, make them of great service to you by raising colts.

But there are certain kinds of labor to which the gelding is better adapted. They are generally, we think, more fleet, and consequently, better fitted for heavy draughts.

We could find many purposes to which geldings are better adapted than mares. We would therefore, advise not only farmers, but all who do not severely task their horses with labor, to keep mares by all means. We would also advise them to obtain the best mares, and the services of the best stallions, as the colts will sell

for enough more to doubly pay the trouble and expense. And besides the profit to the raiser of horses, the community would be benefited by an increase in number, and a decrease in the price of horses, in a few years.

A farmer who keeps only two horses, and both geldings, will be compelled to purchase a team of some one else when his is done with work; whereas, if his team is composed of mares, he is preparing a team to take their places, when they are turned out to take their rest, either on account of old age, or for any other cause.—*Northwestern Farmer.*

ASTONISHING PERFORMANCE.

On the thirteenth of January, at Windsor, (Eng.) Mr. J. S. Rarey, from the United States of America, had the honor of exhibiting before her Majesty, the Prince Consort and the royal family and suite, in the riding house, his marvellous power over the horse. Several animals were selected as subjects of his experiments.—He commenced with a wild colt eighteen months old belonging to the Prince Consort, which was brought from the Shaw Farm, and which had never been handled, except by halter, and had been chosen by Colonel Hood for the occasion. After being alone with the animal for about an hour and a half, the royal party entered, and found Mr. Rarey sitting on its back, without holding the rein, the horse standing perfectly quiet. Mr. Rarey then made a few remarks in regard to his great experience in the treatment of this noble animal; a drum was afterwards handed to Mr. Rarey, which he beat with fury whilst sitting on the horse's back, without the colt exhibiting any signs of fear. The royal party afterwards withdrew for a few minutes, and on their return found the animal lying down, and Mr. Rarey knocking its hind legs together, one of which he put against his face. Afterwards a restive horse, from Mr. Anderson's stables, in London, which Mr. Rarey said he had before handled, was placed at one end of the riding house alone. Mr. Rarey went to the other end, and at his command the horse walked quietly up to him. He then made the horse lie down in the presence of the Queen, when Mr. Rarey crawled between his hind legs, and over him in various ways. Mr. Rarey then rolled his horse on his back. The horse was afterwards placed in various positions, in which it stood without holding and without a bridle.

A third horse, selected by Mr. Meyers, the riding master, as a very nervous animal was then brought in, and in a few minutes afterwards it was made by Mr. Rarey to do all which had been done by the other horses. At the conclusion of this exhibition of Mr. Rarey's wonderful power over the horse, his Royal Highness the Prince Consort expressed to Mr. Rarey his gratification and thanks. The secret has been entrusted to Major-General Richard Airey, in confidence, who has pronounced that there is nothing in the treatment but what any horseman would approve of. The secret will be made known when a sufficient number of subscribers have been obtained.

[Written for the Valley Farmer.]

THE HORSE.

It is a fact much to be regretted that so few persons whose business requires them to be constantly working with horses, take so little interest in the comfort as well as judicious management of this noble animal. To become an expert driver and a skillful manager of horses, of course requires much practice and considerable judgment, but some suggestions may be useful in pointing out to those unaccustomed to the business, the proper course of treatment in some leading points. It is essential to the value of the horse in after life that he should be properly broken. The safety of his own, as well as his masters life depends in a great measure upon his docility and tractability. A horse, properly trained so that he will perform his labors with a regularity of movement, without fretting, &c., will stand up to more work, and also live to a greater age, than one of a fractious disposition. Besides this, a good disposition is an excellent recommendation in the sale of a horse. As I have remarked in a former number, the breaking, (or rather training) of a colt, should begin with his birth. Keep him gentle; accustom him early to the use of the halter, but do not keep him tied up until he is a year old. After this rub and handle him frequently. If a colt is to be worked I prefer breaking to work before riding. To accomplish this in the best manner, harness him by the side of an old horse. Be certain that the harness fits him properly, so as not to chafe him unnecessarily. If he is restive or impatient some assistance will be necessary in hitching and starting with him, but afterwards, in ordinary cases, a careful hand can manage him well enough. I prefer a wagon for the first working of a colt. It is a matter of importance however that he should be restrained, so as to move off slowly at the start, thereby avoiding the rattle, which may tend to frighten him. In all cases use kindness and firmness to accomplish your purposes and let him see that he is not going to be hurt.—This will inspire him with confidence, and almost always prove effectual in rendering him tractable. Coercive measures should only be used as a last resort.

Colts should not be put to hard and constant labor until four years old. It is a very important matter in working horses to have the gearing all fit comfortably. Although there are some horses which have a disposition to balk naturally, I may safely say that nine out of ten balky horses are made so, either by bad driving, overloading or bad gearing.

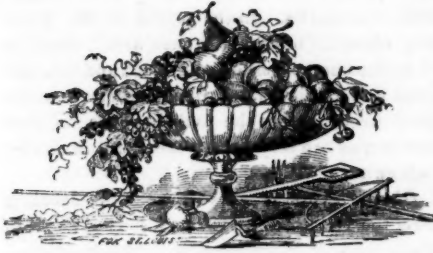
In breaking a colt, if his collar hurts him, it is not wonderful that he learns to wind about and pull uneasily, if indeed he pulls at all. In the first place see to it that his collar fits just so tight that it does not choke. Then the hames to fit the collar, so as to bear evenly on the shoulder. The common, cheap kind of hames, sold so extensively throughout the country, are a curse to the farming community, and I venture the assertion that no one who has ever given their practical utility any degree of consideration would ever use them except from sheer

necessity. In order to point out this fact I will describe them. They are made a little crooked at the bottom and from the point of the shoulder to the top they are straight, or if any difference, bulging a little on the inside. It seems this pattern has been adopted under the erroneous idea of fitting the hollow of a horses neck, whereas the strain is entirely unconnected with this part of the body. It is impossible to make this kind of hames stay in their places, as the top string must of necessity be very long and the hames set flaring, then the weight of the tongue or even the mere act of pulling, draws them down, throwing the hook of the hame and consequently all the strain, down upon the point of the shoulder. This causes severe collar galls in many cases, even sweeny and big shoulder, to say nothing of the tendency which it has to cause the animal to flinch thro' pain and subsequently to refuse to pull. Hames to fit properly, should have a slight curve at the bottom, and also be scooped out a little at the top, so as to come pretty near together.—This will give the right set to the collar, and add much to the comfort of the horse.

I prefer that the point of the hame hook should crook so as to enter the wooden part of the hame slightly. This prevents all catching of chains together, (which sometimes takes place in plowing) causing inconvenience to the driver. I would also, as much as possible, do away with hooks about the entire hitching arrangements. I have known many instances where horses have been badly injured, (in plowing) by the sharp part of the hook on a single-tree, (having spread a little,) catching on their feet or legs. A J on the end of a chain is much better also, because it never becomes unfastened by shaking about. Side straps, however, especially for wagon harness, are decidedly preferable to chains, as they are not so apt to shave the hair off in cold weather. This may be obviated also in a great measure by having wide single trees, and will be found to add materially to the comfort of the horse.

A great many advocate the plan of working horses without blinds to the bridles. There are advantages and disadvantages with both kinds. The careful driver however can get along with either. To the inexperienced driver, let me say: run no risks in leaving your team, when hitched to any vehicle; never attempt to haul more than the horses can pull; never pull them with a heavy load until they are out of wind. In stopping to rest always try to stop on good ground, so as to start as easily as possibly.—Avoid winding them about unnecessarily. Use the whip rather sparsely and curry and feed with a liberal hand. H.

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To MAKE COWS GIVE DOWN THEIR MILK—Give them a taste of salt. Mr. Leonard Gillett, of North Colebrook, has practiced this for fifteen years, and has never known it to fail. The animal should be kept a little hungry for salt, so that the pleasure of getting some takes off her attention from other things.



Horticultural Department.

ORCHARDS IN GRASS LANDS.

EDS. VALLEY FARMER:—I intend planting an orchard of apple trees and wish to seed the ground down in grass; which is best for the purpose, Blue grass or Orchard grass?

If we were to answer our correspondent according to our own notion, we would say that neither should be sown in an orchard. There is no practice more erroneous among farmers than that which too frequently prevails, of setting fruit trees in land occupied with grass. In favorable localities, the orchard may be made the most valuable part of the farm, and should receive equal care and cultivation with the most delicate crop. The farmer who should plant his corn in his meadow would be regarded as insane by his neighbors; equally so should he be looked upon who should plant his fruit trees in a similar situation. There is no crop that thrives better under proper culture than fruit trees, and none suffers more from the lack of it, and the idea that an orchard may be seeded to grass or grain and be expected to produce fruit in twenty years—if ever—should be discarded. An orchard of peach or apple trees, if well planted, according to the rules we have frequently given, may be made to grow vigorously and healthily and come into bearing in three to five years, and by the fifth seventh year yield sufficient to pay all the expenses for their purchase and cultivation. But trees planted as we have frequently seen them, in meadow, or in ground sown in wheat or oats, and then often in grass, would become stunted and moss-bound, and a large portion of them broken down and destroyed before they acquire sufficient size and strength to withstand the treatment they are exposed to from the plowmen, the cattle and numerous other depredations, while the remainder may struggle through a

weakly existence and scarce ever produce fruit enough to pay their first cost.

In planting an orchard the best and most elevated ground on the farm should be chosen, and broken up not less than twelve inches deep, and kept clean and mellow, as for a crop of corn, until the shade of the trees nearly covers the ground. But while the trees are young the land need not be exclusively devoted to them; low-growing crops, such as beans, turnips, beets or potatoes, may be grown between the rows of trees, some of the small varieties of corn might be allowed once, but it is better to occupy the ground with smaller plants that require the use of the cultivator and hoe. In this way an orchard may be made speedily profitable. Out of the millions of trees raised and sold in the United States within the last fifteen years, we think we are safe in asserting that not one-third are now in existence; they have been put in improper situations, without due care in planting, their culture neglected, and they are gone. What is worth doing at all is worth doing well, and to nothing does this rule better apply than to the care of an orchard. We are not without experience in this matter, and know whereof we testify. But we have wandered from our correspondent's question. Both blue grass and orchard grass delight in partial shade, and both when well put in in proper soil, will thrive tolerably well in the open field; but when shade is desired let it come from the trees of the forest, but from the orchard never.

In looking over a quaint old treatise on the orchard, printed in 1620, nearly 250 years ago, we find some valuable hints to those who think their trees will take care of themselves amid the overrunning grass or in a grain field. The author says:

"Weeds in a fertile soile, (because the general curse is so) till your trees grow great, will be noysome. I admit of nothing to grow in mine but fruit and flowers. If sap can hardly be good to feede our fruit trees, why should wee allow of any other growth, especially such as will become their masters, and wrong them in their livelihood.

"Wilful annoyances must be prevented and avoided by the love of the master and fruiterer, which they beare to their orchard.

"Justice and liberality will put away evill neighbours, or evill neighbourhood. And them (if God blesse and give successe to your labours) I see not what hurt your orchard can sustaine."

If these rules were inculcated 250 years ago, the world has made slow progress in successful orcharding since.

NEW GRAPES—A NEW SEEDLING OF KENTUCKY.

A considerable number of new and valuable grapes have recently been introduced, as either the result of cultivated seedlings, or new accidental varieties. Indeed, it appears, that in no class of fruit, not excepting the strawberry, has there been so great improvements, as in the grape. The improvements that seem to mark several of these new varieties consist in earlier maturity, freedom from rot and perfect hardness, together with superior quality. The Catawba and Isabella, the two standard varieties are both late in maturing, and are subject more or less to be affected by the rot, while in some localities they have been considerably cut down by severe winters.

Rebecca.—This is a superior, hardy, white native grape, supposed to be a chance seedling which appeared in the garden of E. M. Peak, of Hudson, N. Y., where it has been growing for a number of years. The following description is from Charles Downing, Esq.: "Bunches nearly cylindric, about four inches long by two and a half inches in diameter, very compact and heavy; often shouldered, berries of full medium size, oval and generally much compressed, strongly adhering to the peduncle. Color light green in the shade, auburn or golden in the sun, and covered with a light bloom and considerably translucent. Flesh of some consistence, juicy, sweet and delicious, with a perceptible native perfume, but very agreeable. It has no toughness or acidity in its pulp, and ripens eight or ten days earlier than the Isabella, and keeping a long time after it is gathered."

Delaware.—The precise origin of this grape is not known. It was introduced to notice by A. Tomson, of Delaware, Ohio. It is supposed to have been brought from New Jersey and it is thought by some that it is a foreign variety. But Mr. Tomson thinks it must have been an accidental seedling, as it is free from blight and mildew, which is not the case with any of the foreign kinds. We give the following description from Downing's new edition on fruits:—"Bunch small, very compact, and generally shouldered. Berries smallish, round when not compressed. Skin thin, of a beautiful light red or flesh color, very translucent, passing to a wine color by very long keeping. It is without hardness or acidity in its pulp, exceedingly sweet but sprightly, vinous and aromatic, and is well characterized by Mr. Prince as our highest flavored and most delicious hardy grape. It is a vigorous grower, an early and profuse

bearer, and probably more hardy than the Isabella or Catawba. In the garden of Mr. Tomson, where all other kinds were nearly destroyed by the unprecedented cold of '55 and '56, this alone was uninjured. It ripens nearly or quite three weeks before the Isabella. Its bunches and berries are very greatly increased in size by high culture."

Diana.—This is another valuable seedling from the Catawba, raised by a lady of Boston, whose name it bears, given it by the Massachusetts Horticultural Society. It is regarded as one of the best and most beautiful of American grapes, and is particularly valuable for its earliness, and when removed to the south, it is said to be even more valuable than at the North. We copy the description as from above: "The color is fine reddish lilac, thickly covered with bloom, and the berries generally marked with three or four indistinct star-like specks. The fruit, when fully ripe abounds in fine, rich juice, vinous and aromatic, from which all the offensive native odor has disappeared. It hangs long on the vines, is not injured by severe frosts and keeps admirably for winter use. It is exceedingly productive and very vigorous."

A New Seedling Grape.—A most valuable grape has been grown by a few persons in Kentucky, for twelve or fourteen years and known as the Bullitt grape, (a name that leaves a hard impression.) We are indebted to Judge John G. Taylor, of Henry county, Ky., for a full account of it. It is said to have been discovered growing wild in the Cumberland mountains, by a man named Cobb, who dug up the vine, and brought it to Shelby county, Ky. The farm on which it was planted was subsequently purchased by a man by the name of Bullitt, by whose name it has since been called. The vine is a most vigorous grower, with rather slim branches of a peculiar, gray color. The leaves are long and deeply lobed, and of a yellowish green shade. While the Isabella and Catawba have been killed to the ground in the late cold winters, this, in the same gardens, has proved hardy to the terminal bud. Bunches hardly so large as the Catawba; berries below medium size, growing very compact; color white, with a slight tinge of green, inclining to yellowish on the sunny side, when perfectly ripe. It is almost entirely without pulp, and when eaten the skin is left as free as that of a currant, which in texture and thickness it very much resembles. It hangs on the vines after quite severe frosts have occurred, without apparent injury, and when gathered may be kept into the winter with

little care. During the present season, this grape will be sent abroad to amateurs and judges, who can determine more fully its value.—Some of the fruit has been sent to Mr. Longworth, who we understand, pronounced it one of the very best grapes for ladies' wine. We are indebted to Prof. Noble Butler, for a single bunch of it, gathered after it had been exposed to several frosts. He is of the opinion that it is not inferior in any particular to the Rebecca or Delaware. The fruit was exceedingly delicious and sweet, with a rich, pleasant, sprightly flavor. It ripens about two weeks or more before the Catawba.

THE STRAWBERRY.

In former numbers of the *Valley Farmer* we have given ample directions for the culture of the strawberry, described their anomalous sexual character, and said enough to encourage every owner of a garden to plant and properly cultivate a bed of them, and yet there are but a small proportion of the dwellers in the rural districts who have provided themselves with this easily grown and profitable luxury. Those who neglect this great blessing bestowed so freely upon mankind, should be classed among the semi-barbarian or uncivilized, and be compelled to take up their abode among them. If the head of the homestead still persists in the neglect of the greatest blessing heaven has ever bestowed upon mankind, the female portion of the family should take it upon themselves to command the aid of their lords and plant a strawberry bed without delay. Now that the method of preserving fruits in their fresh state, in air-tight cans, has become established and so generally known, this earliest and best and most healthy of fruits should command their first attention, and every family be supplied with a large store, not only for immediate use, but during the whole year.

Since the introduction of some new and productive varieties of the *hermaphrodite* character, much of the difficulty growing out of the necessary attention to the sexual character of the plants may be done away with. For the novice, these new varieties are preferable, indeed, some of these new sorts have proved equal if not superior to the old *pistillate* varieties. "Wilson's Albany" produced, in the garden of Mr. John Wilson, Albany, N. Y., has proved in every quarter and under every climate, so far as it has been tried, one of the best sorts ever grown. To insure a full crop, no other

kind is needed. Unlike most other gardeners who have produced new varieties, Mr. Wilson has never attempted to "humbag" the world by unduly puffing this variety, nor does he charge an exorbitant price for it, but sells it at about the price of ordinary kinds—\$2 per 100 plants.

Longworth's Prolific is another of the same class, and has proved itself, in many places, equal in point of productiveness and good qualities, to the best known.

Peabody's new Seedling was disseminated widely last spring at \$5 per dozen plants, and a good supply of these may soon be had. The claims for this new variety place it far in advance of any other, but never having seen the fruit, except from newly grown plants, we cannot judge how it will compare with the description given of it; the present spring, however, will determine its character.

April is a good time for setting strawberry plants. They not only require to be set in a well prepared soil, in beds one foot by two apart, but like every other crop that is expected to flourish and return a reward for the labor bestowed, they must be cultivated and kept clear of weeds *throughout the season*. Nothing yields a richer return for the care and labor given.

REMOVING PEAR TREES TO PROMOTE FRUITFULNESS.

A writer, (L. B.,) in the March number of the *Horticulturist*, in remarking upon the practice of Mr. Rivers, of England, on removing trees to promote fruitfulness, says: "But I can show by experience that a tree, chiefly on the quince root, taken up in some part of your grounds, and carefully transferred by wheelbarrow or handbarrow, to its new place, when the operation is performed on a mild Spring day, and the soil being in good order, is in no danger whatever, and that it is, indeed the *best* of all methods to throw a very thrifty variety into bearing. With pears upon the quince root, one transplanting in two years will have the desired effect, almost always the first, and certainly after the second removal."

We have no doubt that this method would have the desired effect, if the tree was over luxuriant, and the removal was performed with the greatest care and but slightly breaking the ball of earth and disturbing the great mass of roots, but it is a method to secure fruitfulness that we should not recommend. In the humid climate of

England it may be done without incurring the danger to which trees thus treated would be liable, in ours, the reverse of that. In suddenly checking the growth of wood in a vigorous fruit tree, there is danger of producing an opposite and more formidable disease, for such we call it. In a healthy tree, after it has attained bearing size, the wood producing and fruit producing forces are in equilibrium. But as the largest portion of pear trees are treated, or rather neglected, by those who plant them in this country, the wood producing force is too often sacrificed to the fruit producing force, and the health and vigor of the tree are so much impaired in consequence that it seldom recovers, and soon dies.

The method we have frequently practiced, on the pear tree, not only upon the quince root, but standard trees upon pear roots, has been to *root prune*. When *depletion* is found necessary it is important to know to just what extent it is required to produce the desired result, without so far checking the growth of wood as to throw the tree *irrecoverably* into a fruit producing state.

Trees are often brought into this condition by over-bearing, when, if the few first crops of fruit had been thinned to just the number of specimens that the tree could mature without impairing its vigor, the remaining fruit would not only have been greatly superior, but the tree retained in health for years to come. Our method has been to remove the earth, beginning one or two feet from the tree, according to its size, leaving the roots bare, and with a saw or knife, sever each alternate root, or as many as may be thought necessary; this applies to standard trees, but if the operation is to be performed on the pear on the quince root, we usually dig at the proper distance from the tree to just shorten the fibres to the proper extent all around the tree. This method enables you to know just how much you cut away, without the liability of extending the injury further than you design, as might be the case in removing the tree. Another advantage of this method is, there is no danger of impairing the firmness and stability of the tree, as would be the case when removal is resorted to.

It is seldom that pear trees on the quince root are so luxuriant as to remain barren and require root pruning. They require better culture than they generally get to render root pruning necessary, but upon the pear stock this operation is frequently necessary.

We saw last season, in a gentleman's garden, a large collection of pear trees, and nearly all

the early bearing varieties, like the Bartlett, Andrews, &c., had set and matured an unusual quantity of fruit, and the result was that the trees made but little or no wood, beyond fruit spurs. Their vigor was so much impaired that it is doubtful, whether by any treatment the wood producing force can be restored so as to prevent the death of the trees in a few years.

Careful culture, and proper thinning of fruit on newly planted trees are matters that require to be observed and attended to, to insure trees a healthy, vigorous and productive condition.

Fruit Trees that Escape Injury from Frost in Northern Iowa.

In our March No. we gave a list of apples that have been found to resist the effects of several late severe winters in northern Illinois, by Mr. F. K. Phoenix. We now copy from the Horticulturist the names of certain apples and other fruits found hardy in Iowa, by Mr. James Matthews. This information will be of service to those of our readers who live on the cold prairies of the north and west. Mr. Matthews says: "I had the aid of Mr. Drury Overton, who is my neighbor, and a nurseryman of seven or eight years experience here. We have set down as perfectly hardy: Red June, Fall Wine, Jen-neting, (Rawley's Janet,) Smiths Cider, Yellow Bellflower, American Summer Pearmain, Early Sheep's Nose, (a very fine apple every way,) Newark Pippin, Shaker Yellow, (a first rate apple, ripe in August,) Wine Sap, Red Sweet Pippin, Roman Stem, Holland Pippin, Jonathan, Summer Queen, Michael Henry Pippin, (no better apple here,) Red Sweet Romanite, Green Everlasting, American Pippin, Summer Rose, Red Astrachan, Belle du Havre."

Mr. Matthews says of some other fruits:—"The two past winters killed all the peaches and most of the cherries to the ground; also the pears. The exceptions with me, amongst the cherries, were Early May, May Duke, Belle Magnifique, and Reine Hortense, and out of some fifty or sixty pears, Buffum is the only kind entirely uninjured by the freezing. Both the winters referred to, the thermometer fell frequently to 20°, and at three or four times from 24° to 28° below zero. Catawba and Isabella grapes killed to the ground; Brinckle's Orange, Catawissa Raspberries, and New Rochelle Blackberry, quite hardy, several others, including Knave-it's Giant, large French Monthly, &c., killed.—All the varieties of currants and gooseberries of course perfectly hardy."

RED CEDAR AND OTHER EVER-GREENS FROM SEED.

C. S., of Rockport, Mo., wishes to know the best way to make the seeds of the Red Cedar sprout, and the mode of growing other evergreens from seed, &c.

The seeds of the cedar may be made to vegetate as freely as so many peas, but it usually requires one or more years to divest them of the gum connected with the pulp of the berry, before they will sprout. Our method has been to take the berries fresh from the trees and rub them gently with a small flat block of pine, on the bottom of a box; this will separate the pulp from the seed; we then rub them between the hands in sand or ashes, and remove as much of the coating of the seed as possible; then plant in frames or boxes, filled with light garden mould, and cover the seeds about half or three quarters of an inch deep with fine light leaf mould from the woods, and cover lightly with moss, to retain moisture; the boxes should be placed where they can receive only the morning and evening sun. If the seeds are gathered in the fall and quite thoroughly cleaned some of them will grow the first year, but not generally until the second, and some not till the third spring. The boxes should be exposed to the weather and kept moist in dry times, and in the spring the surface of the earth should be made light, and the moss renewed. When the young plants have attained sufficient size and hardness, they may be removed the second or third spring to nursery rows, and for a time be partially shaded with brush.

The Chinese and American varieties of the arbor vitæ will grow the first year, planted in frames or boxes, as directed for the cedar. It is best to let the plants remain in the boxes until after the second summer, but they should be protected in winter from the severe frost either by removal to a cellar or greenhouse, or the boxes sunk level with the earth, where water cannot stand over them, and some light evergreen brush placed over the boxes.

The pines are not so easily propagated in our climate. Experienced gardeners have found it extremely difficult, in our dry, burning summers to prevent them "damping off." It is less expensive to procure small plants from the forests of nature's own planting, then to attempt to grow them from seed.

The Balsam Fir and Black Spruce may be found in great abundance in forests suited to their growth, and men make it a business to procure them, and ship to nurserymen in all

parts of the country. But the largest portion, including the Norway Spruce and other evergreens are propagated in England, and sent to this country in large quantities; they being so small that thousands can be placed in a single box. The climate of England is peculiarly adapted to their propagation; there are men there who make it almost an exclusive business. None of our nurserymen attempt to propagate them in this country, it being cheaper to import them.

The *Washingtonia Gigantea*—The large tree of California, being a more hardy plant has been propagated very successfully in the United States, and large numbers of the plants have been shipped to England.

We know of no work on the propagation of evergreens and forest trees.

We doubt whether fresh evergreen seeds can be had at the seed stores. Sometimes the seeds of the Chinese arbor-vitæ are sent in, but they frequently become old before they are sold.

THE VERBENA.

Among the numerous bedding plants we think we may place the verbena at the head. Numerous splendid new varieties are produced every year, of every shade of color, and many of them combining various shades of color. These when bedded out so as to mingle their various shades produce the most beautiful effect imaginable. The verbena, like the petunia, furnishes a constant show of flowers from June until cut short by the autumn frosts. Without a green house it is not an easy matter to keep the verbena through the winter, and new supplies must be procured every spring from the florists, and where these were not convenient, this beautiful plant could not be so well obtained. But more recently a new method has been adopted of sending this plant to almost any part of the country with perfect safety.

Some years since, Mr. Dexter Snow, of Chicopee, Massachusetts became so much in love with the culture of this plant, that he finally made it an exclusive business, procuring every new variety, at whatever cost, until his collection surpasses in beauty and extent any other in this country. He has introduced the method of sending them by mail, post paid, to all parts of the country, not exceeding twelve or fifteen hundred miles, without injury. They are sent at about the price florists usually charge, according to the number of new sorts sent. We could give a list of names of some of the new and most beautiful sorts, but it is better for those who wish to order, to first send to Mr. Snow for a catalogue, giving full descriptions, prices, &c.

The Vegetable Garden.

[Written for the Valley Farmer.]

CALANDER OF OPERATIONS FOR APRIL.

The present season being somewhat backward, much of the work that is usually performed in March will be necessarily deferred till April. Still some of the early crops will have been got in. Study the nature of your soil, and be guided accordingly. We recommend to sow seeds of hardy vegetables, just as early as the ground can be got in good tillable condition—but not before. Better wait a few days and get it so, than plaster your seeds in. This is especially true of compact, clay loams. The after effects, on these soils, of too wet working is very apparent in baked, stubborn clods and pieces. Therefore to have your ground sufficiently dry to disintegrate, crumble and work up fine and mellow is of the first consequence.

Asparagus.—Fork over the beds early this month, digging in all the short, rotten manure, that was used as covering. If you have not an asparagus bed, delay not to plant one. You lose one of the greatest and earliest luxuries of the garden.

Peas.—Successive crops of these may be sown. The champion of England is one of the very best flavored and most productive of the tall growing marrow peas. The Dwarf Marrow is also good for later use. Make frequent sowings of radish so as to have them fresh and tender. The yellow turnip is good for late use, as it withstands heat and sun better than the red varieties. If your ground is limited, lettuce and radish may be scattered thinly among other crops.

Cabbage and lettuce plants from frames may be planted out the second week or so into the open ground, while the tomato, pepper and egg plant, should be pricked out into other beds a few inches apart. A hill of cucumbers may be planted in the centre of each light thus occupied. Sow celery in a frame from which your cabbage plants were taken, or else on a shady border. Drouth is the principal thing to contend against in germinating celery seed.—Also sow cabbage, cauliflower and brocoli, for fall crops, in the open ground towards the end of the month. Main crops of carrots, beets, potatoes, &c., may be got in, any time this month. Sow a row of parsley along the edge of your borders. It is a useful little herb. Also a little bed along a narrow border, of the following herbs: sage, thyme, savory, margorum. The herb department should be a separate, little affair, by itself, and besides the culinary sorts, might embrace the medicinal, as catnip, horehound, camomile, rue, hyssop, &c.

Towards the end of the month, some of the more tender kinds may be sown as cucumbers, snap beans, sweet corn, okra, &c. Warm, dry, sheltered situations should be chosen for these if to be had.

As soon as the early crops make their appearance, run the hoe or cultivator through them,

to check and keep down weeds, and keep the ground open and mellow. Unceasing vigilance in all these matters, at this season, is the price of success in this department. Scores of little ways and means to facilitate and improve on these crude hints will suggest themselves to every earnest, thinking worker.

FLOWER GARDEN AND SHRUBBERY.

Deciduous trees and shrubs may still be planted in the early part of the month, or until the buds become too much swollen. While evergreens may be safely transplanted much later, even after they have commenced growth, if done with care. In addition to the choice shrubs mentioned in the last month, may be named the following beautiful kinds: The Japan Quince, Virginian Fringe Tree, Sweet Scented Shrub, African Tamarix, the Flowering Currants, &c., while for trees, for shade, ornament or shelter, or all combined as they should be, we need not go abroad, while we have the graceful elm and birch, the sturdy oak, the noble tulip, and buttonwood, the maple, the liquid amber, the coffee tree and a host of others. Procure a specimen or two of these and plant them out in the open lawns, and allow them to develop their fair proportions, and see what monuments of beauty they will grow to and become, even in the life time of a middle-aged man. If you like to indulge in a few good exotic trees, the catalpa, the European linden and mountain ash, would give you satisfaction, while the cypress and the Deciduous Magnolias, from the sunny South, would be valuable acquisitions.

If not done last month, remove all straw and litter and rubbish of all kinds, that may have been used for winter protection, or have found their way there from any other source. Fork over the beds and borders and rake neatly. Clean the walks and attend to the edgings. Put on a new face and make everything look neat and trim in this department. Reduce the large tufts of perennials as you dig along. Exchange with your neighbors for anything you have not got. Rose bushes are very generally left to take care of themselves. They should be well pruned back. They make so much neater plants, and bloom so much better for it, and in purchasing a new stock of roses, let us advise you to choose the hardy remontant class, as they are most adapted to give satisfaction, with perhaps a few Bourbons, as Hermosa, Souvenir de la Malmaison, &c., and a few annual varieties. The former are perfectly hardy and unsurpassed in beauty, and bloom several times through the summer, while the Teas, Bengal and China are very apt to get killed in winter, sometimes from want of protection, at others from injudicious protection.

The harder kinds of annuals may be sown in patches at the beginning, and some of the more tender sorts toward the end of this month.—Dahlia roots that have not commenced to grow may be planted out by the end of the month. Nail and train the prairie roses up neatly to the side of the house.

FRUIT GARDEN AND ORCHARD.

In garden culture, the ground between the rows of small fruits should be well forked over and some well decomposed manure worked in around the raspberry, gooseberry and currant

plants. With the strawberry, we believe manuring is less essential, on the rich alluvial soils of the West, but deep culture is all important. Spring is, in our opinion, the very best season to make new plantations of the strawberry.—Select good, strong, healthy plants of last year's runners, and plant with care, and nine out of ten will live without further trouble. Whereas in August or September, from the great heat of the sun, and the frequent drouths, plants set out at this time dry up and die out in great numbers, in spite of all the watering and care you can bestow on them. You have to replant, and replant again, and at last your bed is uneven. Choose good, clean ground. Plow or dig very deeply, then set your plants in rows not less than three or four feet apart. The plants may be from one to two feet in the row. Then with the cultivator or hoe, keep the ground clean and mellow, and allow your plants to form a strip twelve or eighteen inches wide. This they will do the first season, and the next you will be rewarded with a handsome crop. The hermaphrodite or perfect flowering varieties are becoming so numerous and of such good quality that all pistillates and staminate may be entirely discarded, and this we advise. A great amount of unnecessary trouble and a nuisance is it to plant a bed or a row separate for mating purposes and then have to watch them so carefully, to keep one from rotting and jostling the other out. We hope, in a few years, none but the hermaphrodites will be grown, and the long list of names both foreign and native, be greatly curtailed. A half dozen, or even less, of good standard varieties, is as many as we want, for all useful purposes. Longworth's Prolific and the Wilson's Albany are good varieties of the above character, fast taking places as standard varieties, if not already considered so. We recommend them. C. SANDERS.

St. Louis Fruit Garden, March 20th, 1858.

[For the Valley Farmer.]

THE GROUND CHERRY.

EDS. VALLEY FARMER.—Permit me to call the attention of those of your readers who are not acquainted with the above fruit, to its merits and uses. It is known by several names, and I believe the ground cherry, winter cherry, strawberry tomato and cape gooseberry to be identical. In a new country where fruit is scarce, or a new home and garden, of which there are many in this great West of ours, this little fruit should be invaluable—at least to those who value fruit at all—as it can be had the first season in abundance, and it is really delicious, when used for pies and tarts, and more than passable when eaten raw. In tarts it has a peculiarly rich flavor, and we think nearly resembling the green gage plum, than anything else we ever tasted. It is also good for preserves.

It may be grown precisely the same as tomatoes, i. e., seed sown in a hot-bed, and the plants set out the same time as tomatoes, only about two feet apart. Or the plants may be raised in the open ground, or with the best convenience you have at hand for raising such kinds of plants in. Plant a bed of three or four dozen

plants, hoe and keep clean, and it will produce a nice supply for the above purpose. The plant is a low, diffusely branched herb, quite prolific. The fruit is small, about the size of a small cherry, perfectly globular, palish yellow, and partly enclosed in its dried looking, leafy calyx. It is not perfectly ripe till it falls off the plant, or will drop off by a gentle shake and may be picked off the ground.

CULTURE OF ONIONS.—C. T. G., of Kentucky, enquires what is the best method of growing onions?—and remarks that "I have seen large crops and large onions grown in the Eastern states from the small seed in one season, while in Kentucky it requires two seasons to bring them to full maturity. Is this difference owing to soil or climate?"

Reply.—We have frequently, indirectly, answered our correspondent's enquiries, while writing upon the subject of root crops in general. All root crops, including the important one of the onion and the potato, require a cool climate to favor perfect maturity. The climate in which Indian corn will barely mature is of about the right temperature to produce the onion, potato, turnip, beet, &c., in the greatest perfection. In England and Ireland, for instance, corn will not mature, and yet these countries possess the finest climate for the development of all the roots.

In Kentucky and all the range of country embracing a similar climate, there is usually a sudden transition from freezing winter weather, to that of almost a tropical summer, with but a few weeks intervening, and during this period there are but a very few days of the proper temperature best suited to the growth of the onion. If the seed are planted as is the custom in Weathersfield, so celebrated for its large crops of this vegetable, the hot weather usually overtakes the plants just as the bulbs are beginning to form, and the plants are at once dried up without bottoms. Very early planting on a rich, light, well-drained soil, will sometimes insure medium bottoms, but the best method is to choose a well drained spot and plant early in the fall, cultivate and thin the plants well, and let them stand over the winter, either earthing them up, or give them a good mulching of coarse stable manure to prevent the severest action of the frost and to keep the earth mellow. In the spring, work the plants on each side with a narrow hoe, and a fair crop may be expected. The ordinary practice of growing from sets in the spring gives the least trouble, where one prefers to buy the sets. But early planting and a rich mellow soil are indispensable to a good crop.

We have frequently urged fall planting of potatoes, and covering the earth with a good coat of straw. This will give an early start in the spring, and often a full crop, when spring planted potatoes are cut short by an early summer's drouth. Farmers and gardeners would do well to put in an acre or two in this way in the fall. Two weeks earlier in market, and the general crop will doubly pay for all the extra labor, besides securing an extra yield.

The Home Circle.

FLOWERS.

We esteem it a privilege to comply with the wishes of our subscribers so far as we can.—We are pleased with their suggestions and usually try to profit by them. Some think we ought to give a little more attention to the culture of *flowers*. We should be glad to do so, if our space would permit. We cannot thoroughly teach every branch of ornamental horticulture for want of room; yet we will try not entirely to overlook it. Flowers are God's ornaments strewn thickly over his vegetable works to beautify them for man's delight. We say they are God's ornaments because he makes them in endless profusion and variety and with a continued succession, beauty of form and color. We say they are for the delight of man, because they produce pleasing emotions in all our bosoms. They are to us types of innocence and beauty. We make them the language of all the hearts variety of feelings. They address us as living voices, as silent oracles that breathe fragrance and sweetness through all our spirits. No soul is so devoid of the sense of beauty and the love of perfection as not to have some lingering admiration for flowers. We say too they are made for men, because, geologically speaking, their existence dates but a little back of the human era. That is, God created them but little before he created man. The first vegetation of the earth was flowerless. For ages upon ages the trees and plants that covered the earth in a dense, dark garment of green, were all destitute of flowers. The ancient ferns and palms and all their contemporaries lived and died and produced no flowers. In the greatest vegetable era in the history of our earth, there was not a flower. All our coal beds in America, England, wherever they have been opened, were formed by the flowerless trees and plants of the great carboniferous period. Mighty were the trees, heavy were the forests, thick was the underwood, luxuriant was the foliage of the vegetable era of the earth, but it was all flowerless, all ungraced by the lovely forms that now deck with beauty the loveliest plant. And why? Because there was no human being then to be pleased with their charming forms of grace and beauty. The huge beasts and great crocodiles and serpents sported amid the luxuriant forests of that primitive era, but no man ruled over them. They had no eye for beauty, and God withheld the flowers, till he was about ready to

create man. Then they burst on the earth in a gorgeous glow of beauty. The flowering shrubs and trees overspread every continent and island. And the humbler vines and mosses carpeted the soil and crept lovingly among the branches, to put out their flowers and beautify the earth.—This was the Eden made for the first man. And it has been going on towards greater perfection ever since.

Should we not then cultivate flowers, seeing that they were made evidently for us? Most surely. Our gardens and yards and walks and arbors should glow with a variety of flowers.—We should cherish them as God-given ornaments of our homes. We should love them, care for them, spread them on our mantles and tables, wear them on our persons, teach them to clamber about our windows, to smile over our doors and fill the air of our homes with fragrance. Those more easily cultivated, like the peony, the pink, the rose and the little annuals, that come and smile only for the sowing, should be about all our homes. Mothers, daughters, children, rear flowers, if the men do not. It seems to be your peculiar province. Prepare well the soil; make it rich and mellow; keep away the weeds; water them well in dry weather and they will repay you with a harvest of beauty and fragrance. *

A WORD TO FATHERS.

We have read a story of a little boy who when he wanted a new suit of clothes, begged his mother to ask his father if he might have it. The mother suggested that the boy might ask for himself. "I would," said the boy, "but I don't feel well enough acquainted with him." There is a sharp reproof to that father in the reply of his son. Many a father keeps his children so at a distance from him, that they never feel confidentially acquainted with him. They feel that he is a sort of monarch in the family. They feel no familiarity with him. They fear him, and respect him, and even love him some, for children cannot help loving some, everybody about them, but they seldom get near enough to him to feel intimate with him. They seldom go to him with their little wants and trials. They approach him through the mother. They tell her everything. They have a highway to her heart on which they go in and out with perfect freedom. In this keeping-off plan fathers are to blame. Children should not be held off. Let them come near. Let them be as intimate with the father as mother. Let their little hearts be freely opened. It is wicked to freeze up the

love-fountains of little one's hearts. Fathers do them an injury by living with them as strangers. This drives many a child away from home for the sympathy his heart craves, and often into improper society. It nurses discontents and distrusts which many a child does not outgrow in his lifetime. Open your hearts and your arms, Oh, fathers; be free with your children, ask for their wants and trials; play with them; be fathers to them truly and then they will not need a mediator between themselves and you.

GIRLS AT HOME.

There are two kinds of girls; one is the kind that appears best abroad, the girls that are good for parties, rides, visits, balls, &c., and whose chief delight is in such things; the other is the kind that appears best at home, the girls that are useful and cheerful in the dining room, the sick room, and all the precincts of home. They differ widely in character. One is often a torment at home; the other is a blessing. One is a moth, consuming everything about her, the other is a sunbeam inspiring life and gladness all along her pathway.

Now it does not necessarily follow that there shall be two such classes of girls. The right education will modify both a little, and unite their characters in one. Girls are not made altogether for home, any more than boys are.—Society would be of but little worth without girls, without women. The first pleasure and duty of every woman should be at home; her next should relate to the refinement and well being of society. But in order that she may benefit and adorn society, she must first know how to benefit and adorn home. Hence all girls, rich and poor alike, should be early and well instructed in all the duties and cares of home. From the cellar to the garret, she should know all that is to be done. From the kitchen to the parlor she should be complete mistress. All the interests of home should be as familiar to her as household words. Neither idleness, folly or indifference should prevent her from engaging heartily in all the concerns of home life. This will be to her a school more valuable than the seminary or the ladies college.

It behooves mothers therefore to feel that they are teachers of the first dignity in position.—Their daughters will be much what they make them. The home education will lay the true foundation of character. It will fix the true principles of life in the young girls mind. It

will give her an insight into domestic duties and teach her that to be useful is one great end of life. Book education can easily follow a good home training; but good home training is not apt to follow the education of the schools. Girls well taught at home are the girls that appear well everywhere. Give us the well read girls and we shall have no need of any other. They will make the true women.

DOMESTIC RECEIPTS.

BROWN BREAD.—Take three quarts of corn meal, and wet it up with warm water, letting it stand twenty minutes to swell, then add one quart of rye meal, or if that is not convenient, add one pint of wheat flour and one tea cup of molasses, and wet the whole up with milk or cold water; then bake two hours or until it is done.

MEAD.—This favorite beverage that for centuries was the chief libation of northern nations, is made by dissolving one part of honey in three of boiling water, flavoring it with spices, and adding a portion of ground malt, and a piece of toast steeped in yeast, and allowing the whole to ferment.

BREAD OMELET.—Put into a large tea cup of bread crumbs, a tea cup of cream, a spoonful of butter, with salt, pepper and nutmeg; when the bread has absorbed the cream, break in the eggs, beat them a little with the mixture, and fry like omelet.

EGG PLANT.—Wash the plant with cold water, boil well; take out the inside, mash and season with butter, pepper and salt, beat up three eggs, take crumbles of stale, loaf bread, saucepan with hot lard and butter for frying, send hot to the table.

CORN CAKE.—Take corn meal and wet up with boiling water and butter milk, equal parts; make it thick as batter, and bake it in a hot oven for the breakfast. To be eaten hot.

TO CURE A BOIL.—The skin of a boiled egg is the most efficacious remedy that can be applied to a boil. Peel it carefully, wet and apply it. It will relieve the soreness in a few hours.

TRANSPARENT PUDDING.—Take the yolks of twelve eggs; beat to a froth; add sugar to make a stiff batter; a small bit of butter; flavor with anything to suit the fancy. Have two good sized pie plates lined with pastry; pour the batter in and bake until done. Some pour preserves, (small fruit) in the pastry before the batter.

HUSK TOMATO PIE.—Line the sides of a deep plate with pastry, slice the tomatoes thin, add sugar, a little butter, some pounded cloves and nutmeg, add half a cup of water, and a little brandy. A little flour makes the syrup richer. Cover the whole with pastry, leaving an opening in the center to let the steam escape.

Editor's Table.

REMOVAL.

The Office of the Valley Farmer in St. Louis, has been removed to the South-east corner of Chesnut and Second streets, immediately over the POST OFFICE, 3d story.

The next St. Louis Fair,

In our last issue we stated that preparations were being made to render the next fair of the St. Louis Agricultural and Mechanical Association the most magnificent one ever held in this country. That our friends in the country may know what the citizens of St. Louis are doing to render the next fair of such surpassing interest, we publish the proceedings of two meetings that have been held for the purpose of increasing the already large premium list offered by the Directors of the Association. They offer \$16,000, a larger sum than was ever offered at any fair ever held in the United States, and the citizens of St. Louis will probably offer a sum nearly or quite equal to that amount. Here are the proceedings referred to.

THE AGRICULTURAL AND MECHANICAL MEETING.—A meeting of the above association was held Friday Feb. 26th, at the Mechanics' Exchange.

J. R. Barrett, President of St. Louis Agricultural and Mechanical Association, explained in a few remarks, the object of the meeting, and for the purposes of organization, moved that James H. Lucas be called to the chair. Which motion was unanimously carried.

On motion of Mr. Charles Todd, Mr. T. D. Day was elected Secretary.

Mr. Theron Barnum, proprietor of 'Barnums' Hotel,' stated that he would give, in addition to the premiums offered by the association, twenty-five dollars for the best sugar-cured hams, (not less than six specimens). For the best pair of live 'capons,' twenty-five dollars, and twenty-five dollars for the best collection of garden products.

Mr. David K. Ferguson, on the part of Kinglands & Ferguson, said that they would give, in addition to the premiums which might be offered by the Society, one of Manny's Reapers and Mowers, (the same which had received gold and silver medals and other testimonials of merit), worth \$140, for the best fall wheat, not less than five acres.

Mr. Blow said he would offer a premium of \$200 for the best plan and specifications of a country house.

On motion of Mr. J. Carson, the Board of underwriters were requested to offer a premium of \$1,000 for the best steam fire engine.

This suggestion was made by Mr. Carson, but was put in the shape of a motion, and advocated in a speech of great strength by Mr. Charles Todd.

Col. J. B. Braut offered a premium of \$50 for the best crop of ten tons of Hemp, \$30 for the next best, and \$25 for the third best.

Maj. E. M. Ryland, President of the Merchants' Exchange, made a few pertinent remarks, and pledged the merchants of St. Louis to offer premiums in such departments and in such amounts as would be becoming the merchants of St. Louis, but he asked in behalf of the Merchants' Exchange, time to make a full and complete report.

On motion of Col. Grimsley, John How and Ferdinand Muir, were requested to report to the adjourned meeting a proper list of premiums for Hides, Leather, &c.

Mr. Henry Ames said he was willing to give a premium of \$100 for Swine, for packing purposes, or for barrels, or for raw material in his line, but would defer specification until he had an opportunity of examining the premium list further.

Mr. Arnot pledged the livery stable men to offer a liberal amount for the best carriage, best buggy, best buggy horses, and best matched horses, and for the best hay and oats brought to the St. Louis market. He said

that he would call a meeting of the stable men, and that he had no doubt very liberal premiums would be offered. If not, that he and his co-partners would offer premiums for articles in their line.

Mr. John Dillon spoke in behalf of the butchers. He said he had no doubt that the butchers of St. Louis, would offer as much as \$500 for the best fat cattle; that he was willing to give his proportion towards the object, and that he had no doubt all the other butchers of St. Louis would contribute; that he would call a meeting of the butchers for the purpose and report as soon as he could.

Mr. Julius Winkelmeyer, on the part of the brewers of St. Louis, said he had no doubt the brewers would give as much as \$500 for best spring and fall barley.

On motion of Col. Grimsley, it was

Resolved, That the chairman of the meeting, (James H. Lucas) and the President of the Agricultural and Mechanical Society, (J. R. Barrett,) be requested to make out an address to the representatives of the various interests of St. Louis, recommending their attendance at the next meeting of the association, for the purpose of assisting the directors in making a premium list for the Third Annual Fair.

J. R. Barret then offered the following resolution:

That the city of St. Louis be requested to offer \$500 for the best specimen of skill and workmanship, in any department of mechanics or manufactures, by an apprentice of St. Louis, under the age of twenty-one years, to be exhibited at the next Annual Fair.

That the city be requested to offer a premium of \$500 for the best invention, made by an apprentice of St. Louis, under twenty-one years of age, and exhibited at the next Annual Fair.

Col. Thos. G. Reyburn offered the following amendment:

That, instead of comprehending apprentices only, the premium be given to any youth of St. Louis, under the age of twenty-one years.

The amendment, after a prolonged discussion, in which Messrs. Barrett, Blow, Todd and Reyburn took part, was adopted:

The resolutions amended were passed.

Mr. Francis Beehler then called the attention of the meeting to upholstery, and offered a premium of twenty-five dollars for the best mattress made in St. Louis.

Mr. Buckland, on behalf of the millers, said they would offer premiums, amounting at least to five hundred dollars, and next year they would offer over one thousand; that they would make out a list of premiums and report to the committee.

Mr. Stamps, on the part of the Mechanics' Exchange, (the President,) said that the mechanics of St. Louis were desirous of adding to the premium list, and as they were not prepared to make out a list of such premiums as they would offer, he would call a meeting of the mechanics and report on next Friday night to the adjourned meeting.

Mr. Thomas D. Day made a few remarks, and placed at the disposal of the President of the St. Louis Agricultural and Mechanical Association, fifty dollars, to be given as he may think proper.

The meeting then adjourned until Friday night next, at 7 o'clock.

MEETING AT THE MECHANICS' EXCHANGE.—Pursuant to adjournment, there was a meeting of the various industrial interests of the city of St. Louis, at the Mechanics and Manufacturers' Exchange, on Friday evening, the 26th inst., at 7 o'clock.

James H. Lucas, Esq., the former chairman, called the meeting to order.

On motion of Col. Grimsley, Norman J. Colman was appointed Secretary.

The Chairman announced that the meeting was ready to receive propositions for premiums, to be united with those to be offered by the St. Louis Agricultural and Mechanical Association, at their next fair.

Mr. Mudd stated that he had, in about an hour's trial that day, obtained subscriptions to the amount of \$440, which he would guarantee to increase to \$500, to be offered as a premium for the best portable hemp breaking machine, to be worked by horse or steam power.

Messrs. Belt & Priest offered to give a premium of

\$100 for the best specimen of a lithographed plat of real estate in the State of Missouri, executed for the spring or summer sales of 1858.

L. D. Jones & Co., offered a premium of \$100 for the best portable steam saw for felling trees, cross cuttings, and other farm purposes.

Mr. R. C. Ludlow, chairman of the committee appointed by the Mechanics and Manufacturer's Exchange, stated that the committee were not prepared fully to report what action would be taken, but "that they believe that several interests among the members of the Exchange are preparing suitable premiums," which, in due time, will be handed to the Board of Directors. He stated that they had determined to offer \$200 for the best, and \$50 for the second best labor saving machine, to be exhibited at the next fair.

Messrs. Hening and Woodruff offer a premium of \$100, for the best specimen of workmanship made by an apprentice of St. Louis, under twenty-one years of age.

The owners of Saw Mills propose to give a premium of \$100, but for what precise object they have not yet determined.

Mr. James W. McDonald offers a premium of one of Wheeler and Wilson's Sewing Machines, valued at \$120 for the best piece or pieces of sewing performed by said machine.

Messrs. Meyer and Brown offer \$50 for the best three dozen upper leather tanned, and three dozen kipskin in the rough, tanned either in Missouri, Tennessee, Kentucky, Virginia, or Indiana.

R. W. Ulrici offers \$25 for best imported Champagne.

Mr. F. H. Lutteroord offered a premium of \$10, for two of the best skinned green hides taken off in this city.

Mr. Elliot suggested that a premium should be offered for the best means of constructing a house, the floors and ceilings of which should be fire proof, so as to prevent such catastrophes as that recently happening to the Pacific Hotel.

Mr. Lucas offered a premium of \$100, for the best machine or implement for escaping from a burning building.

Capt. A. Phillips offered a premium of \$25 for the best display of poultry, to be raised by exhibitor; also, \$25 for best 10 shots, to be raised by exhibitor.

Mr. G. W. Morris offered \$25 for the best hand power rock drill.

Considerable discussion was had upon iron pavements, their methods of construction in America and Europe, &c., and several gentlemen, among whom were Messrs. Todd, Mudd, Barrett and Elliott, offered to contribute towards forming a premium for the best specimen of iron pavement.

Mr. Barrett, President of the Association, in response to inquiries made, stated that the premium list would probably be closed early in March. He also stated that some gentleman might be laboring under a mistake, thinking that the Society were endeavoring to save themselves, but the Directors had already determined to offer \$16,000 as premiums, independent of all premiums now being so liberally offered by others.

On motion, the thanks of the meeting were tendered for the use of the room, when the meeting adjourned.

JAMES H. LUCAS, Chairman.

NORMAN J. COLMAN, Secretary.

ILLINOIS STATE FAIR.—We are gratified to learn that the next State Fair of the Illinois State Agricultural Society will be held at Centralia. Southern Illinois was entitled to the Fair this year, if not before. The location is an excellent one. It is central and easily accessible from all parts of the State. We hope the most ample preparations will be made, for, if there should be a failure in this respect, it will ever after be used as an argument against holding another in Southern Illinois. Let the Fair at Centralia surpass all the State Fairs that have yet been held in Illinois.

The next fair will commence with the third week of September, and continue during the week, and as it im-

mediately follows the great St. Louis Fair, much that will be exhibited at St. Louis will also be exhibited at Centralia.

IOWA STATE AGRICULTURAL SOCIETY.—At a recent annual meeting of the State Agricultural Society at Des Moines, officers for the year were elected as follows: President, Dr. Jesse Bowen, of Johnson county; Vice President, Z. T. Fisher, Mahaska county; Secretary, J. H. Wallace, Muscatine county; Treasurer, Robert Severs, Mahaska county. Iowa City, Des Moines, and Oskaloosa, each had their advocates as places for holding the next State Fair, and the latter was chosen. Twenty-six county societies were represented in the meeting.

NATIONAL POMOLOGICAL SOCIETY.—The Seventh Session of the American Pomological Society will be held in the city of New York, commencing on the 14th day of September next. A further notice of which will be given in the Valley Farmer when the Society's circulars are issued.

THE COLLEGIAN.—We have received the third number of this periodical. It is published by the Athenæum and Union Literary Societies of the University of Missouri. The articles are all original and give evidence of much ability. We hope the citizens of Missouri will support this literary enterprise and thus encourage the development of native talent. There is nothing superior to the drawing out process in education. We not only want the mind stored with knowledge, but we want that knowledge available—always at command. The practise of writing or speaking will enable one to use the knowledge obtained. And a person can not write well or speak well without practice. Therefore encourage the young to use their knowledge—to clothe their thoughts in fitting language. They will then be prepared to do credit to themselves upon all occasions. The highest honors will be open before them.

Terms, \$1.00 per year. Address, THE COLLEGIAN, Columbia, Mo.

The Eagle Fan.

The Fanning Mill is an important agricultural implement. Like most other agricultural implements it is yearly being improved. We have recently examined and seen in operation, in St. Louis, the Eagle Fan, and believe it to be a valuable one. Its plan of cleaning is as follows:

The grain, in falling from the top of the mill, is thrown by the blast upon four or five slabs, (or inclined planes,) of hoop iron, placed across the space which is occupied by the sieves in the common mill. These plates are set at an angle of about forty-five degrees, and as the grain strikes these slats, it is held suspended for a moment by the blast, and the chaff, cockle, smut balls, &c., are blown out, and the grain falls out according to its specific gravity. It separates the large grain from the small and imperfect grains, giving the farmer the very best grain to sow, free from all wild seed. It is adapted to all kinds of seed, no matter how light or small, and producing the necessary separation of the different kinds of seed, so as to divide the crop into its distinct parts without loss. The working of the mill is done with the greatest ease—no jar, no shaking, but running very smoothly. Its weight is about 100 lbs. width 15 inches.

ENQUIRIES AND ANSWERS.

E. F. D., of Hickory county, Mo., inquires at what height the head of apple trees had better be formed. If E. F. D. will turn to our last volume he will see that we recommend low heads, whether in the timber or on the prairie. There are some disadvantages to be encountered in training trees with low heads. It will involve some more labor and care in cultivating the trees until they come into full bearing, but much of this labor may be saved and the growth of the trees greatly promoted by applying a good coat of straw, old hay, or tan bark as a mulching around the trees, and save the danger of injury by running too near the trees with the team in cultivation. We should aim to form the heads of apple trees between Two and Four feet from the ground, even if it involved some labor in cultivating them with the spade and hoe while young.

Peabody's Prolific Corn.

EDITORS VALLEY FARMER:—In looking over the present number of the Valley Farmer, I see that Peter & Buchanan, of Louisville, Ky., have advertised Peabody's Premium Prolific Corn, and say they have a consignment for sale at \$10 per bushel, \$3 per peck and 50 cents per quart. They say that Peabody's Prolific corn will make 100 bushels of corn per acre on lands that will not produce more than 30 of the common varieties, and on the rich Western lands it will make 200 bushels per acre. Now sirs, I suppose it is no hoax, for Mr. Peabody hails from Columbus, Ga., and not from Yankeeedom. But really, I think Mr. Peabody or Messrs. Peter & Buchanan, or somebody else should have enlightened the Western farmers on the modus operandi of planting, cultivating, &c., for we Western farmers think when we have 50 bushels of corn to the acre we have a fine crop, and 100 bushels an extraordinary crop indeed, and we rather think if we had 200 bushels we should have to call in another acre to set it on. Nevertheless, we do not doubt the authority, by no means. We know if the corn can be sold at the price named in the advertisement, it will be prolific—if not in corn, in money, which will be about the same. But, before we buy, we want information, and would be glad to know whether the corn is to be planted in hills, drills, or broadcast, and how thick it should stand on the ground. Any information you can give will be thankfully received. T.

ST. LOUIS COUNTY, March, 1855.

REMARKS.—We will endeavor to enlighten our correspondent as far as our stock of information on the subject will admit. Mr. Peabody has not told us, as Grant Thorburn did of the Chinese tree corn, that it was found in a tea box, direct from China, nor has he told us anything of the origin or history of this wonderful production. We have seen the corn, and can pronounce it a heavy, sound, handsome, white variety. We have seen three good ears grown on one stalk. It looks like an improved variety of the Baden corn, which was introduced some twenty years ago, but Mr. Peabody says it is not, neither is it at all akin to the Wyandott. It took the premium of the agricultural society, in the section of Georgia where it was grown, and the judges certify that it yielded 3,360 bushels and 1 peck from 25 acres, or at the rate of 92 bushels and 1 peck per acre. It is represented as grown on poor, sandy land, such as abound in that section. The papers, too, in that part of Georgia, tell big stories of its growth. It is represented as inclined to tiller wonderfully, and hence but one stalk must be allowed to stand in a hill. Mr. Peabody prepared his ground after this manner: It was frequently plowed just before planting time, and then sub-soil plowed as deeply as two mules could pull the plow. When well prepared, furrows were run five feet apart, as deep as two

long point scooters, (something like shovel plows) one after the other, could open them. In the bottom of this furrow, every four feet, he dropped a tablespoonful of guano, this was covered with earth and over it two grains of corn were dropped—afterwards thinned to one stalk. The after culture was similar to that of other corn. All the suckers are allowed to grow, each is represented as bearing more than one ear.

If this corn even yields double that of our common corn with equal culture, we shall regard it as an important acquisition, but it seems too much to be attributed to the superiority of any variety. However, it is worth a trial in our rich, western soil. As we said before, the corn is heavy and sound, and is just such as we like for bread.

PLANTING LOCUST SEED.—L. D. J., wishes to be informed of the best method of preparing Black Locust seed to cause them to vegetate readily. The best treatment of locust seed to insure a speedy germination, is to gather the seed as soon as ripe in the fall, shell them and put them in a box of sand, keep the sand moist and exposed to the weather until spring, then sift the sand out, and plant in April, about the usual time of planting corn. When seed are not procured in time to adopt this method, take them at the proper time of planting, pour hot (not boiling) water on them; let them stand in the water in a warm place for several days, changing the water every second day, when some of the seed will become considerably swollen, these should be picked out and planted; let the others remain in the water until the shell becomes soaked and the kernel swollen, and plant as before. With this treatment they will grow as readily as Indian corn. Plant first in nursery rows, putting the seed six inches apart, and the rows four feet asunder, and transplant the first or second spring following.

H. L. B., inquires whether a scion from a dwarf pear will do to graft on a standard stock? The nature of a graft, inserted in any stock in which it will grow, is not changed in the least; it remains the same as when cut from its original parent. A pear tree growing on a quince stock is entirely unchanged above the point of union with the stock, and all the wood of the stock below the junction, although formed by the sap that has been elaborated in the leaves of the pear top, forms purely quince wood, and nothing else. This looks a little singular, but the experience of ages has established it as one of the indisputable facts.

WHEAT DRILLS.—A correspondent, J. A. H., of Missouri, writing on the subject of wheat drills, enquires whether a smaller and cheaper drill could not be made, adapted to smaller farms? The ordinary wheat drill could not well be reduced in size, so as to materially affect the price. The number of drills might be reduced, but the cost and labor of making would not be reduced in proportion, and the increased labor of putting in a crop with a narrow through would much more than equal any saving in price. Where a farmer has so little seedling to do as not to warrant the purchase of a drill, let a number of neighbors join and buy one together, although we do not like this kind of partnership business. The advantages of a drill in seedling but a few acres of wheat annually, will justify the purchase of a drill.

HEMP AFTER MILLET.—Mr. Thos. H. Irvine, DeKalb, Mo., asks if "Hemp succeeds well after millet."

We presume the trial has hardly ever been made by hemp growers, yet from the nature of millet, compared with other grains of a similar character, after which hemp does succeed well, we have no hesitation in saying that it will serve as a good preparation for the hemp crop.

JEFFRIES inquires what season of the year is best to transplant cedars? Cedars, like all other evergreens, will grow well if properly transplanted any time in the spring, but the best time is, just as they are springing into leaf. We gave a chapter on evergreens in our last number in which we referred to the absolute importance of never allowing the roots and small fibres of evergreens to become dry in the least in the act of removal. Care in this respect, and there is no more danger of removing a nursery grown evergreen, than there is of the most hardy deciduous tree.

THE PEACH CROP.—As we apprehended, the peach buds in most sections, except in the more favored elevated regions, are killed in Kentucky and Ohio. In the vicinity of Cincinnati they are generally killed; in the more northern portions of Ohio probably a small portion are still alive, but we fear that from their present forward condition subsequent frosts will still destroy more of them. Perhaps cherries have fared better. Apples are still uninjured, and we hope for a full crop.

PREMIUM CROPS IN CONNECTICUT.—The State Agricultural Society of Connecticut for 1857, awarded premiums for the three best crops of corn, the first yielding 98½ bushels, the second 93 bushels, the third 89 bushels per acre. The premium on oats, was for a crop yielding 48½ bushels per acre, and on rye for about an equal quantity. If Connecticut can grow 90 bushels of corn per acre of the dwarf kind, surely our western farmers ought not be satisfied with less than 75 bushels per acre. Good cultivation makes large crops.

AGRICULTURAL MACHINES.—The United States Patent Office granted no less than twenty-two patents for improvements in agricultural implements and machines for the week ending 23d of February, 1858.

We are indebted to John G. Nicolay, Esq., of Springfield, Ills., for an "Abstract of a Report on Illinois Coals," by J. G. Norwood, State Geologist, published by order of the Governor.

OFFICERS OF THE BROWN, CO (ILL.) AGRICULTURAL SOCIETY.—F. F. Dewitt, President; O. P. Gentry, John Maltby, A. McPhail, Vice Presidents; G. T. Purkitt, Recording Secretary; A. A. Glenn, Corresponding Sec.; W. L. Taylor, Treasurer and Collector.

GODEY'S LADY'S BOOK.—Containing the most beautiful engravings, the largest amount of reading matter, and of the most interesting character, is published by L. A. Godey, Philadelphia, at \$3 00 a year.

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ADVERTISEMENTS

To secure insertion in the Valley Farmer, must be received in our office, as early as the 15th of the previous month. See terms.

THE LAWTON BLACKBERRY

Is unique, and not, as some have been led to believe, the common "NEW ROCHELLE BLACKBERRY," Improved by Cultivation. It differs in shape, size and quality from all others. Is perfectly hardy, enduring the severest winters without protection. The fruit is delicious, having small seeds in proportion to its size; is a prodigious bearer, and in good soil, in any locality, the stalks, leaf, flower and fruit, will grow of mammoth proportions.

This variety only, is cultivated by the undersigned for sale, and for the convenience of clubs and those who take orders for plants. They will be safely packed in boxes, put up in clusters of one dozen, without charge for package, at the following scale of prices:—A box of 1 dozen \$3; a box of 2 dozen, \$5; a box of 5 dozen \$10; a box of 8 dozen, \$15; a box of 12 dozen, \$20; a box of 40 dozen, \$50. By purchasing in original package the genuine variety will be secured beyond a doubt, and purchasers may expect a fair crop of delicious fruit the second summer. The money should accompany the order, with name and address distinctly written.

Address WILLIAM LAWTON,
april. No. 54 Wall street, New York.

ST. LOUIS FRUIT GARDEN.

EVERGREEN TREES FOR SALE.

I have for sale a few hundred of that most beautiful of all evergreen trees,

The NORWAY SPRUCE. It is a rapid grower, bears removing well and is everywhere admired. Height from 3 to 4 feet.

I have also for sale a few of that beautiful, graceful evergreen, the WHITE PINE. Every home should be adorned with some of these.

Also a few hundred CATALPA TREES, from 6 to 7 feet high.

The above trees are now growing in the St. Louis Fruit Garden, and consequently their roots have not been injured by becoming dry or killed by frost.

Also for sale a few select varieties of STRAWBERRIES.

Those wishing to purchase are invited to call and examine them at the St. Louis Fruit Garden, on the Olive street Plank Road, five miles West of the City, near the Five Mile House.

To Amateurs and Gardeners.

I can furnish early applicants a limited quantity of the following six varieties of Imported Prize Cucumbers, for forcing; Eugenie and Napoleon Peas (the very best); Wait's Alma Cauliflower, and King of the Cabbage, at 12½ cents each per packet.

Descriptive catalogues of the choicest collection of American, English, French and German

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ever offered in this country, sent to applicants enclosing a three-cent stamp. Every reader will do well to send.

20 packets Chinese Flower Seeds and 16 of fresh Garden seeds for \$1, free of postage.

Address
GEO. F. NEEDHAM,
Florist and Nurseryman, Buffalo, New York.
CAHOON'S PATENT.

BROADCAST SOWER.

This recent invention, which needs only to be known to come at once into general use among the Farmers of the West, is unquestionably (among agricultural implements) ONE OF THE GREATEST ACQUISITIONS of this prolific age. Its great advantages to the agriculturist are briefly

1st. A SAVING of more than 9-10ths of the labor of sowing.

2d. A PERFECT, REGULAR and EVEN DISTRIBUTION of the grain or seed upon the ground.

3d. The CONSEQUENT SAVING of from ¼ to ½ the quantity of seed ordinarily used.

4th. An INCREASED CROP of from 2 to 6 bushels of Grain per acre.

This machine will sow All Kinds of Grain or Grass Seed in a perfect manner, on hilly or level ground, and at the common walking gait of a horse.

It SOWS FROM 16 to 20 ACRES OF WHEAT OR 10 to 12 ACRES OF OATS PER HOUR.

Weighs only 72 pounds, and will save its cost on 30 acres in one season, besides making a pleasure of what was before an arduous and difficult task.

It is intended to be adjusted to and carried on an ordinary farming wagon or cart, and operates by horse power as the wagon is drawn along. It is very simple in its construction, occupies but three square feet of surface area on the wagon, and will last a man his lifetime with ordinary usage and care.

Any quantity of seed per acre can be sown that may be desired. Directions for using will accompany each machine. Price of the machine \$35.

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No. 16, N. Main street, St. Louis. Mo.

Jerusalem Artichoke.

This is the best Root Crop now grown for stock. It is easily cultivated and very productive—in good soil will sometimes produce two thousand bushels per acre. When grown for feeding hogs it should be allowed to remain in the ground two seasons; after this the hogs may be allowed to run upon the ground and feed themselves. In this way the poorest soil may be made rich.

We have for sale 1000 bushels. Price \$1 per bushel. Packed up so as to be safely transported to any point.

I. M. McCULLOUGH & SON,
mar.3t. 200 Main street, Cincinnati, Ohio.

THE MORGAN HORSES.

THE fine Morgan Stallions—"BLACK HAWK PRINCE" and "MORGAN HUNTER"—will stand at my stables, at Castor Hill, two miles west of the Fair Grounds, for the season, commencing April 1st and ending July 1st.

The fine young Morgan Stallions, Gen. Barker, Pilgrim and Ringoal, and the imported horse Norman, will stand for the season at my farm in St. Charles county.

In the above, each of the celebrated families of the Morgan horse is represented, viz: the Sherman Morgan, by Black Hawk Prince and Pilgrim; the Woodbury Morgan, by Genl. Barker and Morgan Hunter, and the Bullrush Morgan by Ringoal.

Norman is a noble specimen of the race of Norman horses, and was imported by C. L. Hunt, Esq. His cross with the common mares of our country produces a superior draft or farm horse.

I invite the attention of breeders to this fine stud of horses, which for pedigree, excellent form, vigor and fire cannot be excelled in the United States. C. SEMPLE.

BUY
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NURSERYMAN AND FRUIT GROWER,
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Offers for sale a large and reliable assortment of
Fruit, Ornamental Trees and Shrubs,

Comprising the choicest varieties of
Apples, Pears, Peaches, Plums, Quinces, Apricots, Cherries, Grapes, Currants, Gooseberries, Raspberries, Strawberries, Almonds, Shade Trees, Ornamental Shrubs, Vines and Creepers, Evergreen Trees, Shrubs, Roses, Dahlias, Verbenas, and Crysanthemums,

New and Rare Seeds Scions of Fruit Trees, &c., &c. The varieties were mostly tested here by himself, and proved successful in our soil and climate, and all are WARRANTED true to name.

The superior qualities of our soil for fruit culture are too well known to need recommendation here.

Grape Vines for vineyard planting furnished by the 100 or 1000, at low rates.

Descriptive Catalogues sent gratis to all applicants. Orders carefully and promptly filled.

GEORGE HUSMANN.
Hermann, Mo., Jan. 1st, '58.

CATAWISSA RASPBERRY.

The subscribers beg leave to call the attention of the public to this most profuse bearing, Autumnal Raspberry.

Dr. W. D. BRINKLE, late President of the American Pomological Society, says, in speaking of this berry, Sept. 7th, 1856: "I examined the Catawissa Raspberry this day, at Groveville. It was loaded with blossoms, ripe fruit, and berries in all their intermediate stages. The ripe fruit was quite large, some of the berries being three quarters of an inch in diameter, and fully equal in size and flavor to the Antwerp raspberry of the Philadelphia market. Is wonderfully productive, more so than any raspberry I know."

Similar encomiums have been expressed by every horticulturist who has had an opportunity to test it.

Our stock was procured from Mr. Joshua Pierce, D. C., and have fruited with us. They were literally loaded with fruit in its several stages, last fall until winter set in. We have been enabled by a new method of propagating, to secure a large stock, so that we can supply all orders.

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Our plants are in pots, therefore can be shipped at any time in safety.

Also Belle de Fontenay and Merville des Four Seasons. Price \$4 per dozen.

We would also call attention to our splendid collection of new and superb Dahlias, consisting of upwards of one hundred sorts, selected while in flower by a member of our firm from one of the largest collections in the East. There is not one poor one in the lot. Price in pots, newest sorts \$6 per dozen; those not so new \$4 per dozen.

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